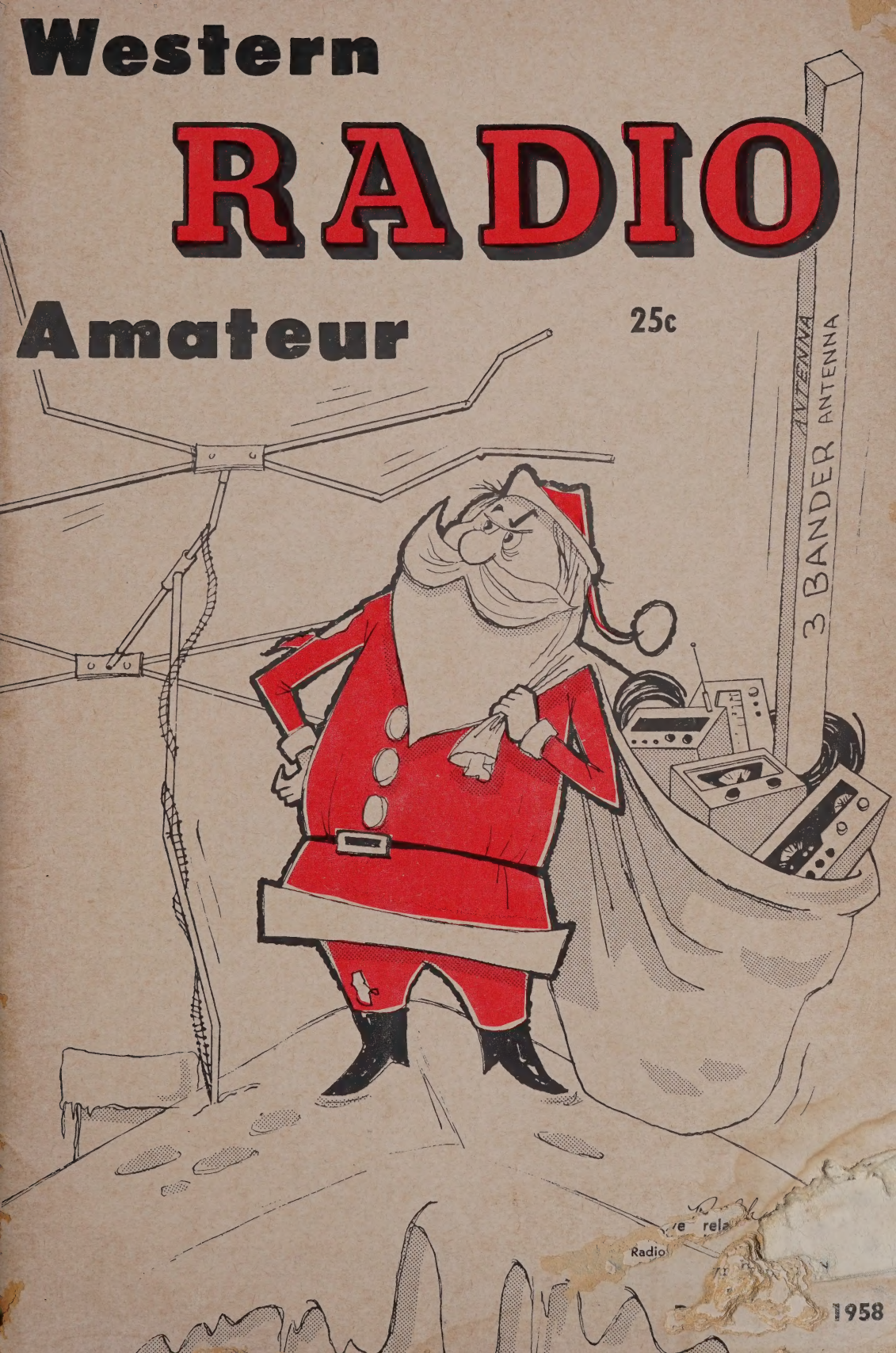
Western

RADIO

Amateur

25c

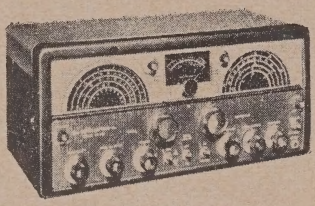


Radio

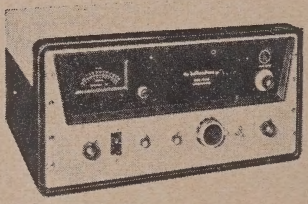
1958

WE'VE GOT

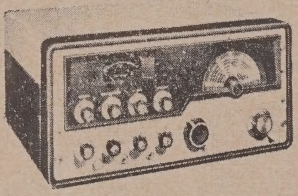
hallicrafters



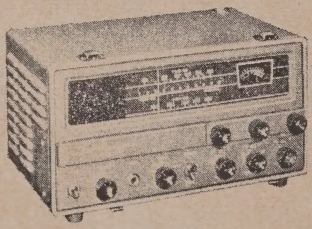
SX-100 $295 net



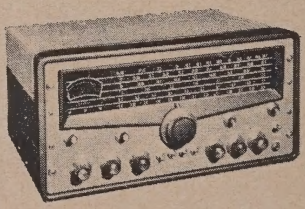
HT-33A $775 net



HT-32 $675 net



SR-34 $495 net



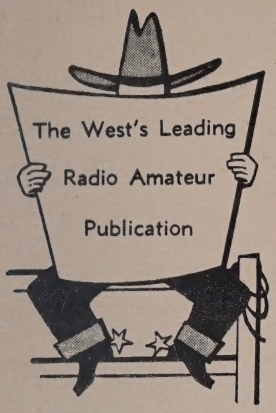
SX-101 $395 net

HEADQUARTERS FOR HAM GEAR & ELECTRONIC PARTS

Dow Radio

17[illegible] E. COLORADO ST. PASADENA, CALIF.

RYan 1-6683 SYcamore 3-1196



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THE EDITORS LOG

HISTORY OF WRA

The name used to be West Coast Ham Ads and at first was 8 pages of just that. Don Williamson, W6JRE was, and still is, the publisher.

Corky, W6ORS began his column "Loupin' the Loop" devoted to news of L.A. area hams in the May '54 issue and hasn't missed since. In Oct. 1955 Don Stoner, W6TNS, began his "Surplus Corner" which continued to Dec. of 1956 when I snagged him away to write for CQ. (I was CQ's assistant editor at the time.) In January of '56 Bill Thompson, W6RRI, began his "What's New" series devoted to news of new products.

It was March of 1956 when Don began to devote full time to publishing Ham Ads. A few months later beginning in July, subscriptions were instituted and single copies began to sell for 10 cents. The magazine had crept to 26 pages per month and Don was growing proficient at making old battered presses run, not to mention acquiring skills in all phases of the printers' trade.

Ed Marriner, W6BLZ, first appeared in December, '56 and has been in just about every issue since with technical articles. During 1958 he began "San Diego Zero Beat" devoted to news of that area. Howard Pyle, W7OE, appeared one month earlier than Ed with his first article in the November '56 issue. His monthly "W7 News" didn't start on a regular basis until the following February.

Nineteen fifty-eight saw myself taking the reigns as Editor and along with me from CQ came Dick Spenceley, KV4AA, with his DX Reporting. The name "Western RADIO Amateur" was adopted to reflect our new format. The magazine was now running over 34 pages per month.

In April our Antenna and VHF Columns were started, conducted by Ken Glanzer, K7GCO, and Bob Cooper, K6EDX, respectively. A San Francisco area news column was started to give outlet to growing Bay Area activities. In June, Maurice Hindin, W6EUV, began his very popular series devoted to "Amateur Radio and the Law". It was this same month that we stopped printing the magazine ourselves as 48 pages times 10 [illegible]s were clearly too large a load for [illegible]ndle. For three issues we struggled [illegible]ters schedules and chewed buckets of fingernails waiting for other people . . . meanwhile switching to glossy paper and applying for Second Class mailing rates which reflected our change from a free circulation to a paid circulation magazine. About the time we thought we had the new Post Office red tape figured out and had changed the mailing plates and machinery accordingly . . . the printer went bankrupt. The next two issues got out somehow even though we lost a month in the process.

This issue was printed on our brand new 55 year old Harris S4L offset press which is another way of saying we are back in the printing business and way down in the check book. Now if we can just figure out how to get you fellows to subscribe, get more advertisers to advertise (and pay their bills), figure out how to run this new Linotype and printing machinery and get the magazine out to you dear readers . . . 1959 should be quite a year.

INFLUENCE PEDDLERS

Who . . . Me?

Yes, YOU! If you ARE interested in doing something to regain our bands above 200 mc as well as publicize ham radio, this is what YOU must do.

Pay a personal or club visit to your congressman. Invite him to a club meeting. Invite him to a few of the local ham stations. When he is there and marveling over Ham Radio with a cup of good java, mention how IRAC and the president is moving in on us. How the FCC doesn't seem to support us.

A shrewd move would be to time these visits with clubs in other areas and have several members of Congress talk to each other via Ham Radio. If you do it should be a simple matter to get the press and TV out to record this moving event.

The following list comprises the home addresses of every Senator and Representative elected for office in California. You other Western Hams will have to do your own address hunting. Hint: Call the local political office or Chamber of Commerce. Remember Senators have considerably more power than Representatives.

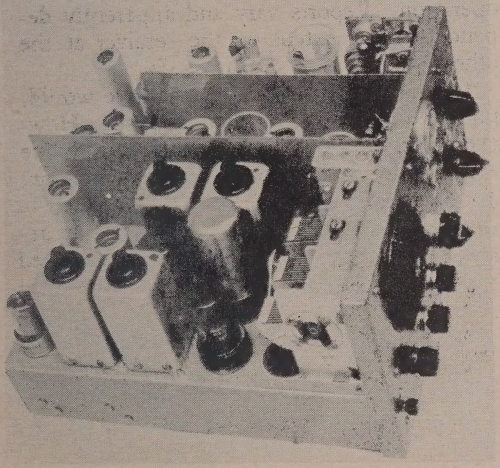
I checked out these people from the Los Angeles area. Those with a (*) after their

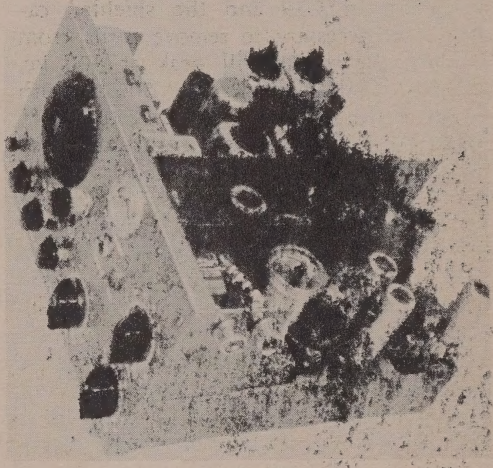
Continued on page 35

ANOTHER S. B. B. MOBILE

PART TWO

J. P. ISAACS, W6PZV
1300 California Avenue
Compton, California





CORRECTIONS TO SCHEMATIC IN LAST MONTH'S ISSUE

All voltage points should be marked 300 volts unless otherwise indicated below.

Source of 150 volts regulated is plate of V-14, OA2.

Voltage point screen grid of V5, 6SK7 should be marked 150 volts.

Ground connection R-18, plate circuit of V6, 6SN7 should be plus 150 volts.

Voltage point screen grid of V7, 6SK7 should be marked 150 volts.

Voltage point bottom of L-17, grid of V-11, 6146 should be -45 volts.

CONSTRUCTION

The chassis layout of the major parts is shown in Figure 2. The vertical height of the rig is exactly the same as a BC453. The parts were laid out and then the chassis and cabinet were built to fit. About half-way through the job, I began to wish that more room had been allowed, but finally I squeezed everything in.

The cabinet is designed for under the dash mounting. The chassis is easily pulled out for adjustments or coil changing by removing one thumb screw at the rear bottom of the cabinet. For servicing, the two power plugs and the coaxial connectors are removed and the chassis can be readily removed, the cabinet remaining in the car. The dimensions are: Width 9½", Height 5½", Depth 10".

TUNE UP

The tune-up on a rig of this kind is a little complicated. However, if you can handle the annual alignment on your communications receiver, you should have no difficulty. Rather than go into maddening detail, I am going to take the easy way out and just hit some of the high spots that could save you some time. An AC power supply which will furnish 300 volts at 150ma is a necessity for testing and alignment. This voltage can be used on the 6146, as well as the other stages. A battery eliminator or storage battery must be used as the 6 volt source because of the relays.

The 85 kc. i-f transformers will require the first attention. Pull the little tabs all the way out and then peak them all to the same frequency. Use a frequency which will put most of the trimmers near half capacity. In my case, this was about 84 kc. The use of a VTVM and an r-f probe greatly simplifies the job. Also, a BC-221 frequency meter can be used to accurately set the frequency of the signal generator.

Push the i-f tabs about half-way down, then check the pass b[illegible] After determining the upper and lower edg[illegible] the oscillator (V7) near the high [illegible] half-way down the slope. Clo[illegible] and

adjust C1 until the oscillator is ditto on the low side of the pass band. The modulator must be unbalanced for these initial tune-up adjustments.

Now, using the oscillator (VI) as the signal source, instead of the signal generator, peak up the remainder of the exciter, using the trimmers on the three gang tuning condenser. The oscillator will need tracking to preserve the dial calibration. Coil L1 will not track because the added capacitance of C39 and the shielded cable. It is necessary to remove turns from L1 until the circuit will peak at 300 kc. with C37 all the way in and at 500 kc. with it most of the way out. About 12 turns off should do it. If you can't get enough signal through during the initial alignment, use 6SH7's in place of the 6SK7's. Replace the original tubes when you are finished. Now, the hard part is almost over. Connect a carbon mike to the audio, crank up the audio gain, and connect the r-f probe of a signal tracer to the top of L1. Don't forget the exciter gain conntrol, R-15. Talk into the mike and, if all is well, you will hear your melodious voice. With Rvl open, adjust C2 until your voice sounds normal, not too bassy or too shrill. Do the same thing with Ryl closed by adjusting C1. It may be necessary to adjust R10 so as to get just the right amount of carrier. Too little will result in distortion. Later, after everything is functioning and the modulator is balanced, the function switch can be set on AM. This will open the contact on Ry3 and R10 can be adjusted for the right amount of carrier on AM. Once set, this should need no further adjustment.

Going on to the high frequency stages, L14 is adjusted so that, with the exciter gain control, R15, set near maximum, the output on 3800 kc. will be just adequate. (Never use C37 to reduce the output of the exciter stages. Always peak it for maximum output and use R15 to reduce the output.) L15 is adjusted for maximum output on about 3950 kc.

The remainder of the circuit is straight forward, but a few words of caution: Use a grid dip meter when making the initial adjustments with each set of plug-in coils and then make a record of the dial settings of the variable condensers after everything is peaked up under operating conditions. It is easy to tune a circuit to the wrong frequency. For example, on 20 meters, L21 could accidentally be tuned to 10.3 mc. instead of

AFTER THOUGHTS

This transmitter has been in operation for about one year and results have justified my efforts. The stability is very good on all bands and I have had no complaints from fixed stations on this score. The audio quality on AM is not quite as good as it is on SSB. Most of the gang who operate with one sideband and carrier find this to be the case. The quality on AM is acceptable at any rate and plenty good for mobile operation. Reports vary and apparently depend to some extent on the receiver at the other end.

If I had it to do over again, there would, undoubtedly, be some changes made. However, everything that was done seemed like a good idea at the time. Right about now, I can hear somebody say, "How about operation on 15 and 10?" Well, the answer to that is that the rig was designed primarily for 75 and just wasn't intended for operation above 20. If, for example, a 17.5 mc. crystal was used to mix with the 4.0 mc. signal, there would be plenty of output on 21.5 mc. There would, also, be a lovely signal on 17.5 mc. and a good one on 13.5 mc. It would take about four (4) tuned circaits to get well rid of the unwanted responses. On 10 meters the situation would be worse. The commercially made exciters have all those tuned circuits for a good reason.

The rig can be switched from AM to S.S.B. in just a few seconds, so it is possible to make quick checks on the effectiveness of both types of modulation. A direct comparison is not exactly fair, because the input on AM has to be limited to about 40 watts, where as it can be run to 75 watts on S.S.B. Even so, the increased effectiveness on S.S.B. has to be due to some other reason besides the difference in power. I can always get a contact on 75 in the evening. Just zero in on a round table and start talking. Did you ever try operating 75 meter mobile in the evening?

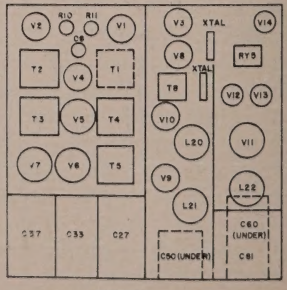


FIGURE 2.
LAYOUT OF MAJOR PARTS — TOP VIEW

PARTS LIST

C1—7-45 uufd ceramic trimmer
C2—35 uufd variable, part of 85 kc. b-f-o transformer
C3—Part of 85 kc. b-f-o transformer
C4—.001 uufd mica, part of 85 kc. b-f-o transformer
C5—.100 uufd mica
C6—300 uufd mica
C7—40 ufd, 150 v. electrolytic
C8—50 uufd variable, APC type
C9, C10—720 uufd, mica
C11, C12—.004 ufd, ceramic, 600 v.
C13, C14, C16, C17—Part of 85 kc. i-f transformers
C21, C22, C24, C25—Part of 85 kc. i-f transformers
C18, C19, C20, C26—.05 ufd, paper, 400 v.
C34, C35, C47—.05 ufd, paper, 400 v.
C15, C23—2.2 uufd, ceramic
C27, C33, C37—Original 3-section variable
C28—700 uufd mica
C29—100 uufd mica
C30, C31, C32—720 uufd, mica
C36—100 uufd, ceramic, 600 v.
C38—50 uufd variable, APC type
C39—35 uufd, ceramic, 600 v.
C40, C41, C42, C48—.01 ufd, ceramic, 600 v.
C49, C51, C54, C55—.002 ufd, ceramic, 600 v.
C56, C57, C58, C59, C64—.002 ufd, ceramic, 600 v.
C43—100 uufd, ceramic
C45, C46—Part of T8
C50—140 uufd, variable
C53—30 uufd, ceramic
C60—730 uufd, dual section broadcast type variable, sections in parallel
C62—35 uufd, ceramic
C63—110 uufd, ceramic
C65—.02 ufd, ceramic
C66, C68, C69—.001 ufd, ceramic
C67—.0005, ceramic
C71,C72—.5 ufd metalized paper, 400 volts
C73—Mounted in coil L21, see coil table for values.

All mica capacitors, except original parts taken from BC453, are 500 volts.
All ceramic capacitors are 600 volts.

R1, R25—22,000 ohms, 1 w.
R2—6,000 ohms, 10 w., wire wound
R3, R17, R39, R43—100,000 ohms, ½ w.
R4, R19—22,000 ohms, ½ w.
R5, R20, R41, R49—1,000 ohms, ½ w.
R6, R7—15000 ohms, 2 w., matched to 2%
R8, R51—22,000 ohms, 1 w., matched to 2%
R9—10,000 ohms, 1 w., 10%
R10, R15, R27—25,000 ohms, Ohmite or Allen Bradley Type J, 2 w. potentiometer
R11, R23—10,000 ohms Ohmite or Allen Bradley Type J 2 w. Potentiometer.
R12—5000 ohms, 1 w., 5%
R13, R16, R31—200 ohms, ½ w.
R13, R14—620 ohms, ½ w.
R18, R24—47,000 ohms, 1 w.
R21, R22—10,000 ohms, 1 w. 5%
R26—56,000 ohms, ½ w.
R27—27,000 ohms, ½ w.
R29—47,000 ohms, ½ w.
R30—27,000 ohms, 1 w.
R32, R34—10,000 ohms, ½ w.
R33—300 ohms, 1 w.
R35—10,000 ohms, 20 watts, wire wound
R36—120 ohms, ½ w.
R37, R38—Meter range resistors. Select so meter reads 200 ma. full scale
R40—47,000 ohms, 2 w.
R44—10,000 ohms, ½ w.
R45—220,000 ohms, 1 w.
R46—1 megohm carbon potentiometer, audio taper
R47—1 megohm, ½ w.
R48, R50—20,000 ohms, 2 w., matched to 2%
R52—Mounted in coil L22, see coil table for values
L1 to L13—Original coils from BC-453 (L1 modified as per text)
L14 — L15—Miller #1466, 4.5 mc transformer
L16—8 uh, slug tuned
L17—2.5mh. RFC, 100 ma.
L18—6 turns wire wound on R36
L19—2.5mh. RFC, 200 ma.
L20—2.5mh RFC, 100 ma.
L24—2.5mh. RFC, 100 ma.

PLUG-IN COILS

75 M

L21 Shorting connections only
C72
L22 B & W #3016
17 turns
C73 200 uufd
ceramic
R52 4700 ohms, 1 w.
L23 B. & W. #3015
22 turns
C74 720 uufd, mica

40 M

B & W #3015
12 turns
100 uufd
APC variable
B & W #3015
18 turns
10,000 ohms
½ w.
B & W #3014
15 turns

20 M

B & W #3015
12 turns
100 uufd
APC variable
B & W #3015
8 turns
10,000 ohms
½ w.
B & W #3014
9 turns

All coil forms are ICA type 1108B & 113 B. B & W miniductors mounted inside coil forms along with capacitors and resistors as listed.

S1—SPST Toggle Switch
S2—Centralab miniature switch, 3 pole, 5 position. Consists of two #PA 5 sections connected in parallel for increased current capacity.
S3—Automobile headlight dimmer foot switch
S4—Switch on microphone, SPST Toggle
Ry1 to Ry4—Miniature surplus relays, 12 volt coils, work okay on 6 volts, from BC733 receiver and other sources
Ry5—6 Volt, send-receive relay, Motorola Part #80K831612, 5 poles N.O. 1 pole N.C.

Crystals: 1 - 3500 kc.
1 - 10,300 kc.
1 - 11,200 kc.

Simple Transistor Checker

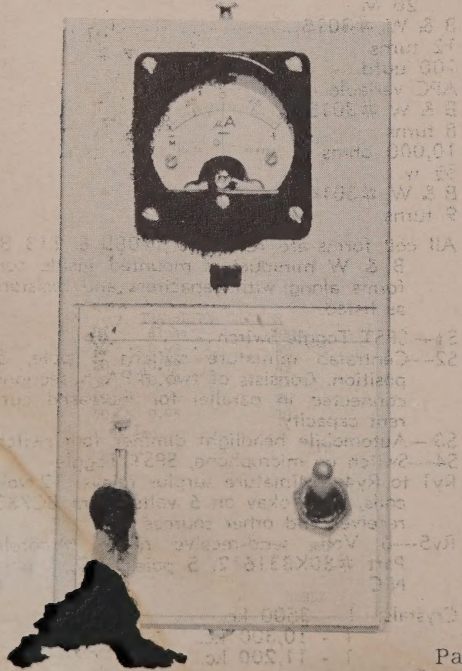
E. H. Marriner, W6BLZ
528 Colima Street
La Jolla, California

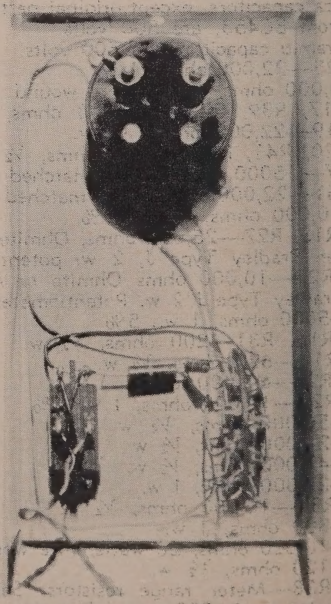
Simple equipment can be used to test two transistor functions: Reverse current and Alpha Beta gain: The first is conducted with the emitter open. This test is called the reverse current check and provides a test of the transistor in various temperature and bias conditions. The operation of transistors are greatly affected by temperature variations and must be operated within the temperature range specified. This first test is conducted with SW-1 (Fig. 1) in the open position. (Ic position) The battery switch for NPN type transistors connects the battery to the collector. For PNP type the polarity of the battery is reversed. The limiting resistor R-1, will prevent burning out of the meter in a defective transistor is checked.

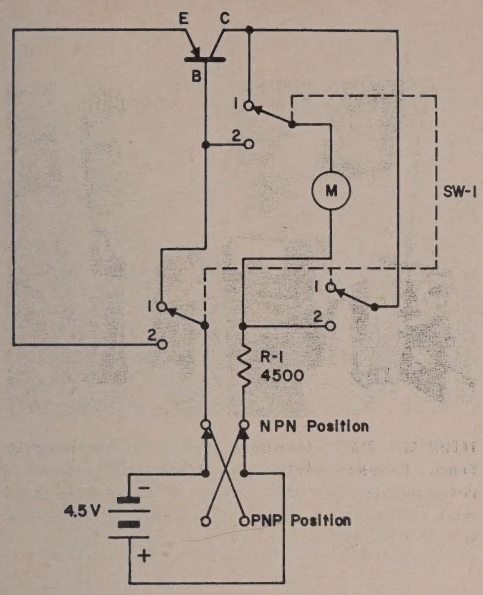
A current of 10-25 microamperes at a temperature of 77 degrees Farenheit will indicate a satisfactory reading for this test. A very high current reading will indicate a defective transistor. However, as transistors age, or become hot, the current will increase over a period of time from the original value of 10-25 microamperes.

The second test for transistor operation is called the multiplication ratio, or ALPHA and BETA gain. This gain factor gives a reference figure on the amplification capabilities of the transistor which can then be checked against the value given in the transistor manual. A few of these readings are given at the end of the article.

More elaborate transistor checkers use a meter in each lead, the emitter, base and collector, to determine the Alpha and Beta gain. These leads are then reversed for the two types of transistors making it very complicated to construct a checker of this type. For a simple checker the total current can be combined by a measurement of the total emitter current which is set at 1 milliampre by using a 4½ volt battery and a 4500 ohm resistor (R1). A 0-50 microamp meter with a zero reference point mid scale for both NPN and







PARTS LIST

Meter 50 micro amp, reading zero center scale
LMB Box No. 138
Switch Yaxley No. 1457, 4 pole DPDT lever action, spring return. 2 positions or equal.
R-1 4500 ohm, ½ watt
SW-2 Battery reversing switch DPDT toggle
Battery 4½ volts Burgess BA-31

PNP type is used in place of a reversing switch.

For Alpha gain SW-1 is closed and the base current is read on the 50 microamp meter and shows the amount of current necessary to keep the emitter current value at 1 milliampre. The meter reading is given as 1-Alpha. This value is subtracted from 1 and will indicate the gain for Alpha measurement.. It is actually the ratio of emitter current flowing in the collector circuit and will read between 0.95 and 0.99 on the calibrated meter. The meter may be marked with a pen and India ink, or read from a chart. Once the Alpha Gain measurement is determined the Beta gain can be calculated by dividing the Alpha gain by the meter reading 1-Alpha. This may sound confusing, but actually to find the Alpha gain the 0 to 50 microamp meter is calibrated using a ratio of reading from unity so that it may be read directly from the chart.

This chart is made up using a Unity Factor of 1 because full scale reading of 50 microampres would indicate a short circuit. For example, to calibrate the meter the scale is calibrated as a percentage of 1. 20 microampres would be 2 percent of 1 or 0.98, 30 microampres 3 percent of 1 or 0.97, etc. Thus Alpha gain is equal to 1-Alpha, or 1-Meter Reading in microampres. There the actual microampre scale is converted to percent.

To find Beta gain:
where the value of Alpha was used between 0.95 and 0.99.

A good transistor will show a value between 19 and 99 for Beta gain as determined from the transistor manual. These experiments indicate the nearer to unity, the current multiplication ratio of the common connection becomes large and indicates high gain.

Meter reading in micro ampres	Alpha gain	Beta gain
10	.99	99
20	.98	49
30	.97	32.3
40	.96	24
50	.95	19

*Note: This circuit only holds true for 50 micro ampre full scale meter.

Bibliography

CBS Hytron Transistor Course
Raytheon Vol. II, pg. 15, Testing Transistors.

Beta Gain Chart of Some Common Transistors

2N63	PNP	22
2N64		45
2N65		90
2N106		25
2N107		20
2N131		45
2N132		90
2N133		25
CK762		65
CK761		45
CK760		40
CK727		25
CK725		90
CK722		22
CK721		45
2N164A	NPN	40
2N165		72
2N166		32
2N168		40
2N170		20
2N186	PNP	24
2N187		36
2N188		54
2N189		24
2N190		36
2N191		54
2N192		75
2N241		73
2N141		73
2N265		110
2N292	NPN	25
2N293		25
2N313		25
2N314		25

DX report

Dick Spenceley KV4AA
Box 403, St. Thomas
Virgin Islands

U. S. AMATEURS MAY RECEIVE AND DELIVER THIRD PARTY MESSAGES FROM PAN-PACIFIC SCOUT JAMBOREE IN NEW ZEALAND

Upon the request of the Government of New Zealand, the Commission, with the concurrence of the Department of State, has authorized United States Radio Amateurs to receive from New Zealand amateur radio stations, and to relay and/or deliver third party messages which are originated at the Pan-Pacific Boy Scout Jamboree to be held in Auckland, New Zealand, January 3 through 10, 1959, and which are destined for locations within the United States, its Territories and possessions.

It is to be noted that this is a temporary arrangement, limited as to the **international** handling of such messages to the above-stated period and that this arrangement does not otherwise modify or revise the Commission's SS Bulletin 1003c concerning International Amateur Radio Communication dated October 1957. The terms of the request from New Zealand do not include provision for relaying by United States amateurs of third party messages destined for foreign countries or for the transmission of third party messages from the United States to New Zealand, and such relaying or transmission is not authorized.

French Guinea, which recently voted itself independence, is being ably represented by Yvon, FF8AC/GN. He may be found on 14037 between 0600/0730 and 1900/2300 GMT. Don't see how this one can fail to be a new country. QSL to Yvon Rangin, P. O. Box 129, Kankan, Rep. of Guinea.

VP2SI, Grenada, has returned home and now is active on SSB with a KWM-1.

KB6BJ will QRT at Canton Island on Oct. 29th and return stateside.

Cards have been received from MP4DAA, Das Island. QSL's go to Andy Goodwin, Box 330, Bahrein Island, Persian Gulf.

Via West Gulf Bulletin we learn that FK8AS has bought his plane ticket to Wallis Island on trip that leaves November 12th. Says he will be on around 0500 GMT on 29 and will also work 15 and 10.

We have a report that recent operation of W3ZJU/KP6 and K6IGP/KP6 was not from Palmyra Island but some other spot which might qualify as a separate one. Can't pin down QTH as yet—.

VK9X- calls will replace ZC3 calls on Christmas Isl[illegible] (Indian Ocean) after October 1st w[illegible] Australia assumes jurisdiction. (Via [illegible])

HB9CM, Phil Gander, operates frequently from Leichtenstein as HB9CM/FL and is responsible for the first 160 meter contact with USA from that spot when W1BB was QSO'ed in 1957.

W4ZCB, Nashville, Tenn. with Hal at the mike

Akira, JA1AG, is an outstanding JA DX'er and holds first WAZ for that country

Irv and Dot Strauber, K2HEA and K2MGE, Lynbrook, L.I. are no strangers to the SSB gang.

Clint Flowers, W8SYC, Covington, KY. is seen here busily snaring Dog Xray...

Here's neat set-up of W1EJV....W1FTT, Plainville, Conn. One chair seats Yank, W1EJV, while no. 2 is reserved for XYL Helen, W1FTT.

Operating position at FF8AC/AGN

As we write Danny, VP2AY, is still at Antigua where rainy weather has hampered painting job on YASME II. He expects to sail for Montserrat about October 17th for a ten day stay on that island using a VP2M- call, not as yet assigned. In view of W6ITH's pioneering job at Anguilla as VPØRT, and upon his request, we have agreed to leave this island to him on the provision that Reg will use plenty of CW there. Operation at Anguilla have been delayed due to the recent smallpox quarantine. Should Reg not appear on Anguilla by the time Danny is finished at Montserrat, about November 1st., we plan to have Danny go there. Otherwise Danny will continue on to FG7 and VP2D- etc. etc.

Further low-down on MP4DAA, Das Island, comes via W7FZA, K6CQM and the W4KVX DX Bulletin: Das Island is a separate island under the rule of the independent Sheik of Aba Dhohu, one of the Trucial states, entirely different from Bahrein, Qatar or the Aman's. I am a communications engineer (writes Andy, MP4-DAA) on this very small island, one and one half miles long and one half mile wide which is a base for an off-shore drilling rig. I will be here for the next 18 months but usually get on the air about once a week. I'm usually stuck on the same frequency, 14048, as the rig is remotely controlled, one half mile from the receiver. I get on the air about 1200 GMT and work through 1600 GMT. Once every four months I go on vacation to England for sixteen days. My next leave starts on October 19th (He should be back about November 5th). I would be very pleased to work all W/K stations but only have nine so far. MP4D-AA is an avid stamp collector—.

July QST announced a decision by the DXCC Committee where credit for ALL ZLIABZ (Kermadec Islands) contacts were voided, charging that "ZLIABZ signals were often below the limit at which they could be positively indentified." Such action cancelled out many perfectly legal contacts made with L and VK stations and their feelings may be well imagined. Since the appearance of ZLIABZ on 14 Mcs., and resulting contacts, Jock, ZL2GX, who is the QSL manager, advises that he will not release any QSL's for 14 Mc. contacts unless ARRL will allow credit for previous 3.5, one band, local contacts. We think Jock has a good case here but doubt if the DXCC Committee will relax it's decision one iota if our past experience is any guide . . .!

Plans are underway for a SSB expedition to Cocos Island, TI9, by TI2HP and others. A KWM-1, with DX adaptor, will be used. This should jell in March or April 1959.

A new rash of ZA1 stations have appeared but no definite word has been received as to the legality of any particular one . . .

K2SGO will handle QSL's for HZ1AB covering QSO's from November [illegible]h '58, on Send self-addressed stamped [illegible]pe (For W contacts).

We have heard that Da[illegible] Island, re-

cently represented by KH6MG/ZK1 and WØPBW/ZK1, will only count as ZK1. Altho far removed, this island is administered by Cook Island authorities.

From W3VD we hear that Trinidade Island will be on the air for one week starting October 25th with PYØNA, phone and SSB, and PYØNE, CW. Hope you got 'em.

Via "Ether Waves" and W8EZF we hear that DL7AH and four other boys will operate as LX1KA from November 26th or 27th until December 3rd.

Active stations on Fernando da Noronha are: Mac, PY7SC, 14 21 and 28 mcs phone. PY7AFN, 14 21 and 28 mc phone and cw. PY7LR, 7 mc cw. Calls will be changed very soon as follows: PY7SC/PYØAB, PY7LR/PYØAC, PY7AFN/PYØAD.

VQ8AQR (Rodriguez Island) is reported to be on 14010 daily at 0330 GMT.

Luis, CE3AG, advises of a DX'pedition to Juan Fernandez Island, sponsored by the Radio Club of Chile, to take place sometime in January. As transportation is scarce and irregular exact date cannot be fixed.

Four operators, probably CE3AG, CE3DY, CE3GI and CE3HL, will take part and two complete stations will be operated during their ten to fifteen day stay on the island. CEØZA will be operated on cw and ssb by CE3AG. Basic cw frequencies will be 14030, 21030 and 28030. Calls should be made 10 to 15 kc up. Ssb frequencies will be 14310 and 21410 and answering frequencies will be announced by operator.

Other operators will use the call sign CEØZB on AM phone on 14100, 21200 and 28200. Answering frequencies will be given by operators.

Equipment will consist of Collins 32S1/75S1 and 32V/75A combinations.

All QSL's go via RCCH, Box 761, Santiago, Chile. Send self-addressed envelope with sufficient IRC's for direct reply.

We understand that ARRL has accepted the Republic of Guinea and Manihiki Island Group as new countries. The latter includes Danger (Pukapuka) Island the scene of recent activity by KH6MG/ZK1 and WØPBW/ZK1. FF8AC/GN, active in Guinea, advises that all French nationals will leave the country at the end of November leaving no ham activity. ARRL has decided to include Das Island with Trucial Oman. MP4DAA should return to Das by November 12th. Trucial Oman is also represented by MP4TAC on 14180 phone, 1400 to 1900 GMT.

Larry, SVØWP (W3JTC), writes that the Signal Officer has gone along with his suggestion that three letter SVØ calls be issued to avoid confusion and repetition. So far the calls SVØWAA through SVOWAF have been issued. SVØWAE is on Rhodes and the rest in Athens. This station, with SVOWB and SVOWE, gives Rhodes three stations, all on phone only. Stations on Crete are: SVØWK, SVØWN, SVØWT and SVØWZ. SVOWT is most active on phone while the [illegible] are off and on. As two letter call[illegible]e, three letter calls will be given new [illegible]icants.

From W4KVX's DX Bulletin we see that the Singapore and Malayan prefixes are due to be changed (probably January 1st) from VS1 and VS2 to 9M1 and 9M2 respectively.

The Trinidade expedition came on the air October 25th as planned. After a day or so on cw, PYØNE (PY1HQ), was forced to return to Rio due to illness in the family. PYØNA (PY1CK) stayed on a month using 14195 mostly phone.

Rundy, W3ZA/3W, writes from Saigon that he has been QRT since October 11th awaiting renewal of Viet-Nam operating permit. He is going to Laos with a KWM-1 and expects to be on the air from 1030 GMT, November 27th, until 1700 GMT, December 3rd. If he is unable to get a special call assigned he will use XW8AH. This is strictly an ssb deal as cw is well represented in Laos. QSL via W2JXH XW8AH will QRT about December 30th and will be next heard from in Baghdad . . .

LZ1AF advises that two Albanian licenses have finally been granted. They are ZA1KB, used by HA5AM, and ZA1KC.

A new one is on from Spitzbergen, LA2TD/P, he may be heard on 14002 around 2100 GMT. LA3VB/P is apparently a phoney and no stations are now active on Jan good strength. This station is in Peiping Mayen.

BY1PK has been heard on 14111 with and is operated by LZ boys. Length of stay has been reported as "a few days" to "a few months". BY1PK has worked very few W's (if any) but seems to concentrate on European and Asian QSO's.

Following notes come from John, W6YY, who states that VS9AC took his 8 watt portable rig to Aman but only worked 4 W's: K4JVE, W4DHZ, W4BYU and W4VPD all on 14 cw . . . . ZS5RP is operating cw from Bechuanaland as ZS5RP/ZS7 (Error here as should be either Swaziland or ZS9) . . . W2EPS/KJ6 is going to be on Johnston Island for the next year.

OY7ML, Faeroe Islands, writes that he will be on SSB for one month starting late November or early December. A KWM-1 has been loaned to him by a W6.

We see in Don Chessers DX Bulletin that IT1ZGY and IT1ZWS will operate from the Pelagian Islands during the CQ DX contest, CW weekend only (November 29th to December 1st). Frequency was 14050 kc. This group of islands is valid for WAE credit, says IT1ZGY, and it is hoped that this group may be accepted as a separate country. These islands consist of Lampedusa, Linosa and Lampione and are quite close to Africa.

Further Lord Howe Island activity was due to occur for two weeks, starting November 20th when Rick, VK3ARX, visits the island. He will use VK2AYY/LH's transmitter which Alan left there and main cw frequencies will be 14020 and 14060. He wants W/K stations to call him 10 kc down and all other countries 10 kc up. He plans to work alternately 3 W/K's then two foreign etc, etc. As this procedure might be a little messy during the DX contest he will

probably not hold to it.

FK8AS visited Wallis Island on November 12th as planned, signing FW8AS.

The San Diego Club has been refused permission to visit the Revilla-Gigedo Islands, XE4, due to Mexican Naval maneuvers near these islands. Advice was received to resubmit this request next March when possibilities were good that permission would be granted. The Scripps Institute of Oceanography will be approached to furnish transportation in same manner as recent FO8AT trip. Three or four San Diego hams will make the trip plus one XE ham.

VKQKT and VKQTC leave the icy wattes of Maquarie Island, for home, on December 15th, both saying . . . "never again!" VE2EG continues to handle their QSL's and says all will be answered in time. It is not yet known if Maquarie replacements contain hams.

We have word that CR1QAA has now received generator and should be heard from by now.

Via K4GIB we hear that Pitt, CN8IU, will operate from Monaco from December 14th to 20th. Call has not been assigned as yet but he hopes for 3A2IU. Operation will be on phone (AM) and SSB on the 14, 21 and 28 mc. bands.

9K2AT, Kuwait, has been heard on 14013 around 0330 GMT.

The Czechoslovak geographic expedition, mentioned in earlier issues, is due to get under way December 31st. KWM-1 will be used. Most Asian countries will be covered over the next five years.

Via VQ4AQ, W6ZE.. and West Gulf Bulletin we see that VQ4AQ plans VQ9 trip in '59 (probably with VQ4ERR). He will also go to Zanzibar with VQ4GT (ex-VQ8CB) in December, signing VQ1AQ and VQ1GT. He also mentioned there were two chaps on the Agaelega and Carajos Islands in charge of weather stations, who may get on the air shortly in hopes of becoming a new country. George also says if Mafia Island could be accepted as a "new one" an expedition there is a good possibility.

160 METER NOTE
W1BB

The Transatlantic and Worldwide "TOP BAND" DX tests for the 1958-1959 season will be held on the following SUNDAY mornings, 0500 to 0730 GMT.

December 7th and 21st
January 4th and 18th
February 8th and 15th

All 160 meter stations throughout the world are urged to participate. W stations east of the Mississippi will operate on the 1800-1825 kc segment. Western W's will use 1975-2000 kc (New USA regulations have removed the 1875-1900 and 1900-1925 segments for ham use).

DX will be found between 1800 and 1875 kc (best between 1800 and 1835) and some near 2000 kc. The 2nd 160 WAC is still to be made!

WITH THE YASME II EXPEDITION AS VP2MX

Danny operated from Montserrat between October 22nd and 27th running up a total of 2003 contacts. First W/K stations contacted is each district were: W1JYH, W2AEB, W3LUD, W4KWC, K5HXF, K6-ENK, W7HKT, W8NJC, W9TQL and WQ-GUS.

Then, after a days stop in St. Kitts, where permission to use the call-sign VP2-KFA, for Anguilla, was granted, he set off on the 76 mile trip to that island.

Arriving at Anguilla on October 31st, and after a preliminary QSO with KV4AA, Danny got down to business at 1345 GMT, November 1st. After seven days of heat and sand flies in which 2571 contacts were made, Danny pulled the big switch on November 7th and sailed over to French St. Martin. Here, he was politely but firmly refused a license and, at KV4AA's suggestion, upped anchor and sailed to St. Thomas for a well earned two weeks rest in which gear will be overhauled and tested. Under jib and mainsail, plus favorable wind and current, the YASME covered the 135 miles to St. Thomas in 18 hours or an average speed of eight knots and arrived on November 11th. Danny should next be heard around December 15th on Dominica. From there he will cover the three remaining islands of St. Lucia, St. Vincent and Grenada and then head back to KV4-land for final fitting out for the long Pacific jaunt.

From Anguilla first W/K stations worked in each district were: W1TX, K2VUI, W3ZAO, W4QCW, W5ADZ, W6CUQ, W7-IAA, W8FGX, W9FID and WQDU.

The gang will be glad to know that Danny's punctured eardrum has responded to treatment and, to all effects, is now as good as new—don't know how we would manage a totally deaf DX'pedition!!.

G3IOR and other ops plan jaunt to either GD or GC for 1st of April. They will stay one week.

Whether or not FK8AS did, or did not, go to FW8-land on Nov. 12th is not clear as we write—.

PY1HQ was due to return to Trinidade Island and be on cw for 5 days starting November 21st. Then he and PYONA will return to Rio together.

Via W6YY we hear that Sergio, CEQ (ex-CE2BM) got going from Juan Fernandez Island and operates phone on the low ends of the 14 and 21 mcs. U.S. phone bands. Rough modulation and little English.

UM8DX is doing a fine job giving the boys Kirghiz phone contacts.

Dave, now on cw from Aden as VS9AQ was originally reassigned the old call of Geoff, VS9AP, who recently departed for UK. So many figured he was a pirate that he requested and got VS9AQ! During his short time on the air his 3[illegible] latter has nailed 76 countries.

Heartiest Season[illegible]etings
VK4AA

Quack – Quack!

Lester A. Earnshaw, ZL1AAX
Box 51, Warkworth, New Zealand

So much is being said—and has been said the last year or so—about that controversial form of modulation, SSB, more often known as 'duck talk' I just had to find out something about it befor I too added voice.

I might mention my first reactions were somewhat violent... if I could but lay my hands on that duck quacking!!! I couldn't, fortunately perhaps for the operator, I couldn't even find the duck. Either the signal was so broad I couldn't find the centre or else it came in little spasmodic bursts with which I played a game of hide and seek, never quite sure whether I had the little begger or not. But make it speak? No! Emphatically No!

Drat the thing. There must be a way, surely. Twiddle this, twiddle that, turn this up, that down, something must happen. And then something does. The duck speaks! But what a voice! Either Donald has a cold or else he has not yet reached puberty! Did I say that? Well, something has changed. Now he has the deep voice of the mature, next the shaky voice of the decrepit.

But enough, I had rubbed the lamp and the Genii had appeared. Now all I had to do was to hang onto the little brute.

About this stage the XYL ceased coming into the shack (Hooraye!) and the kids began making noises that sounded very much like quack-quack. My reactions surprised me. Was this me? There was no one else in the shack—Donald had seen to that—so I guess it was me. Having admitted to myself now that I had changed, I set about taming SSB—the reception side of it, that is.

This was quite a frustrating period. So much of my equipment was either not functioning correctly or just not coping at all. I had to set about an almost complete rebuild. First came the BFO treatment. That is, I pulled it to pieces; I looked at it; I toyed with this and that, unsoldered this and poked at that and then put the whole shooting match in the cupboard. Someone, I forget who it was, said that the nicest thing about sideband is being able to listen to AM afterwards. I heartily agreed.

Eventually, I managed to build a stable BFO. At least I thought it was; I couldn't be sure until I'd given the local oscillator the treatment also. They never had been too stable anyhow. Common sense prevailed here; Solidity, keep the heat away from tuned circuits, install a VR tube, change the micas for silver micas, and the bakelite for isolantite. And re-arrange the circuitry to give greater BFO injection. Also, I played around with external carrier injection from the frequency meter.

Thus it was, I tamed old duck's body. Mastered him instead of he mastering me. A new world opened up before me. A world without heterodynes, a world of true break-in. Up on the high end of 20 where the sigs are packed so tight it's just one big duck farm, there's not a heterodyne unless it comes from a lone AM station who has lost his way. There are other stations working nearby, certainly. But because you aren't tuned into them they don't talk English anyhow. You ignore them as you would a bunch of foreigners gabbering away next door to you on the railroad station. The point is that there's no one up front there holding down the whistle cord.

All the other advantages are well known—there's little sense in my quacking further here.

On the reception side though, not enough has been published. Not enough of us know why we should have more BFO injection than CW; that the reason is to prevent the sideband from overmodulating the carrier you inject. Not enough of us know why we should turn down the RF gain control; that the reason is due to the fact that the AVC is unable to follow the staccato bursts that are SSB and the signal therefore overloads the RF and IF amplifiers. This, incidentally, is why SSB sigs appear to be taking up more than a fair share of the band. In reality the receiver is not able to cope. But I point out here that there are poor SSB sigs which do take up half the band just as there are poor AM and even CW sigs.

Continued on page 39

Multi Band Tuners

Donald L. Stoner, W6TNS
P.O. Box 137
Ontario, California

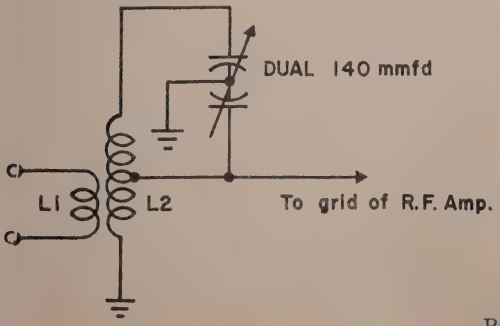
This is not intended to be a complete discussion on multi-band tuners. As a matter of fact, I'm not quite sure how they work! But in the course of building a project I had occasion to construct several of these devises and I discovered several facts that may be of interest. (1) There is no need to purchase expensive commercial tuners, since they can be easily constructed. (2) They are not difficult to adjust, in fact, there is no adjustment! (3) If you can dig a dual section variable capacitor and some coil stock out of your junk box, you have the fixings for a multi band tuner.

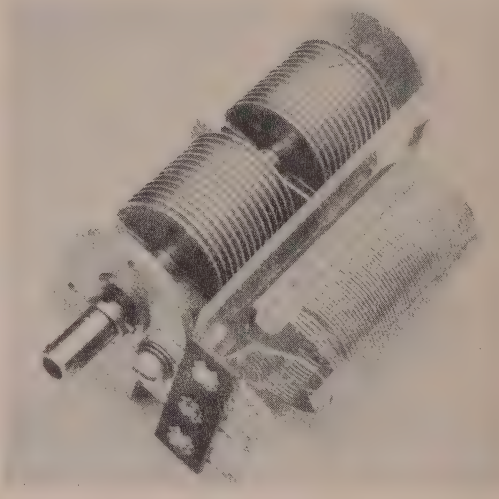
If the term confuses anyone, a multi band tuner is a coil and capacitor combination to resonate on the major ham bands with a single rotation of the shaft. On the multi-band tuners to be described, all bands 80 through 10 meters can be 'tuned' with a 180 degree rotation.

The basic circuit is shown in the accompanying diagram. One end of a length of coil stock is connected to the frame (rotor) of the variable capacitor. The tap is connected to the front section (stator) and the other end of the coil is connected to the rear stator. A link coil provides a means of coupling energy into the circuit from the antenna or previous stage.

A practical application is shown on page 52 of The Novice and Technician Handbook. This device is a preselector for pepping up old receivers, and tunes a frequency range of 3.3 to 33.0mc. The unit exhibits a gain of over 20db. over the entire frequency range, indicating good effeciency in the tuned circuit.

The components required to duplicate this multi-band tuner are a dual 140 uufd capacitor (Hammarlund HFD-140) and a 29 turn coil of Air-Dux coil stock number 816. The tap is placed at the exact center, or the 14½ turn point.





This same device can be used as the grid tank for a final amplifier in a transmitter, thereby eliminating band switches at this point. Multi-band tuners can also be used in the input and output circuits of rf amplifiers, if the coils are shielded from each other. If suitable sized components are used the same idea can be used in the plate circuit of a final amplifier.

Always remember that a multi-band tuner has two resonant frequencies. In a transmitter, if the 'other' resonant spot is the 2nd harmonic of the first, the transmitter will amplify two frequencies! If the same situation arises in a receiver, and the other resonance happens to be at the image frequency, reception of both signals can occur.

This same idea can also be adapted to vhf receivers and transmitters. It would be no trick at all to make a tuner that would hit both the six and the two meter bands. Naturally, the capacity and inductance would be smaller.

Don't be afraid to experiment. Get out the grid dip and 'jury-rig' the circuit shown. See what frequencies you can get it to cover.

It is not necessary to use link coupling as shown. The input can be a tap part way up the lower coil, from the ground end. Place the tap at 5 percent for 72 ohm line and 10 percent for 300 ohm line. In a transmitter circuit, the previous stage can be capacitively coupled to the point on the lower coil where greatest efficiency takes place. The drive can also be coupled to the grid tap position and still have excellent off resonance selectivity.

VHF Record

News of 6 & 2m with a roundup of the amateur 135-70-25-12-8-5-3-1.4 cm bands

Robert Cooper, 151 W. Reed St., San Jose

RUMORS (and 50 megacycle prevaricators)

The 50 megacycle band seems to breed a special type of rumor, especially where DX is concerned. And the fellows behind these rumors are doing more ill than they can possibly realize. Numerous times during the past 4-6 weeks we have heard eastern stations on six meters commenting on the "DX facts" related to them by western six meter men. They run something like this . . . "FB on all of the DX you have been working, boy we sure would like to snag a JA (or ZL) here. We need Asia for WAC. By the way, did you say that you are hearing JA's off the back of the beam, RIGHT NOW? Sound familiar? It should, the low end of six is filled with such conversations. Now the question is, who is fooling who? East coast stations, in their quest for WAC may not stop to think about the facts, in the excitement of hearing that JA's are being heard on the coast, simultaneously with the W1-4 stations. It sounds reasonable to them. They often hear Europe stations and W6's at the same time. Why shouldn't we hear W1's and JA's at the same time? Briefly, it is a matter of too many time zones, and I think the following will illustrate. For instance, at 1100 hours PST, it is 1400 EST. So far so good. But, at the same time, it is only 0400 JST in eastern Japan, and 0300 hours WJST (JA6). Now just how idiotic can the stories get? The earliest recorded incident of JA's being heard on the west coast is 1355 PST, or 0655 JST (JA8), and 1655 EST. This is considerably past the hour (1325 PST) that W1's have held up in California and Oregon. To sum the whole matter up, you just don't hear JA's and W1's at the same time! At least we haven't so far and it isn't likely that we will. Let us stop this needless spreading of senseless rumors (if you are going to spread one, at least make it believable) which only result in much ill feeling. Take a few minutes to straighten out that next W1 station you hear calling CQ JAPAN at 1030 PST . . . he will spread the word around in the east, and perhaps we can squelch some of the mis-guided information filtering into the east coast from a slightly corrupted VE7 station.

50 MEGS . . . All the way.

From the looks of the mail pouring into this office, MOTHER IONOSPHERE has decided to show the six meter gang what she is really capable of once again this fall. Predictions of a decline from the fall of 1957 "peak" conditions turned out to be nothing more than that . . . predictions with little apparent truth.

The MUF between the western USA and the east coast appears to be running a shade higher than last year at this time, with it above 53 megs on at least three days in mid November, that your conductor happened to be available to check. A MUF trial with W1VEX (Barrington, Vt.) at 1017 PST on November 12 saw copyable signals between us as high as 53.050. A second check at 1020 PST on November 16 with W2HSE (Newfield, N. J.) was profitable as high as 53.250 megacycles, when Paul had to QRT for dinner. November 23 at 0945 PST, W8 stations in eastern Ohio were heard working at 53.450 mc, for the highest this year. W9 stations in Indiana were present on the band November 16 and in greater numbers on November 23. Such shortening of the F2 indicates that a high MUF was present on both days.

WHERE TO NOW?

Openings to the Orient (JA hams, Korean and Phillippine commercial outlets near 50 megs) have been more frequent and longer in duration than in the past two seasons. Especially good periods ran from November 8-12, and 20-23, with JA's working in great numbers as far into the southwest as southern Texas. The longest JA opening on record occured on November 12 when JA stations from 8 of the 10 JA call areas were worked from 1355 PST-1830 PST by hundreds of western operators.

KH6UK-W6NLZ to Make 220 mc. attempt:

Official word has been received from John Chambers, W6NLZ, that his Palos Verdes Estate station will be busy rebuilding this winter for an all out attempt at smashing the world's 220 megacycle record, by working KH6UK, Hawaii. Tommy has consented to make "one more try" at keeping a big array in the air at his end of the path. From a few preliminary comments received from interested parties K6GTG, K6RNQ, others) it looks as if many others will be ready for the try also. We know of three very large arrays in the planning stage already! Exclusive progress reports will appear in WRA on a monthly basis, and you know that the schedules will be featured in this column. Three cheers to the [illegible] now laying the ground work [illegible] will be the most exciting story in [illegible] your radio in 1959!

While east coast six meter men have enjoyed several good openings to Africa, (ZS1, 2, 3, 5, ZE VQ5, CT3), a half dozen or so California, Wyoming, and Nevada stations snagged ZS3G on November 9. W6BHR managed to work ZE1JZ on cw November 17. Towards Europe, only one contact has been made by westerners so far this year, that between W6NLZ and CT1CO, which took place November 4. This gives John his Six Meter WAC. W6CDT managed a partial contacts with EI2W on November 9. K5IQL reports hearing CT1CO 589, on his code wheel, 0850-0900 MST November 12. K6RNQ also gleaned the code wheel signal of CT1CO 0920-0922 November 17. W4UCH mentions that CT1CO has only worked two W's this year, W6NLZ and one east coast station. He is apparently relying on his code wheel even more than last year. Our $64.00 question . . . how come he happened to turn it off to work John (NLZ)? What did you do John, call him on the land line?

The KL7 stations have been coming through very well at times, over the entire country, and KL7AUV had 44 states (up from last seasons 36) when we worked him November 22. Jack needed Mississippi, N.H., La., and Georgia at that time. And all this with 10 watts to a 2E26 on AM and 100 watts on CW! The W8's had a break thru to KL7 November 6 for the first such reported this season, while W6KIN's qso with KL7AUV on November 9 was the first western one reported this year. Pancho, W6WNN has been working into KL7 as late as 1630 PST, it is reported. Several new Anchorage stations on six include KL7ANV, and KL7CBR. W3OJU (Washington, D.C.) was surprised to have KH6UK come back to one of his "CQ KH6" cw calls on November 9, seemingly under dead band conditions. The word around the band tells us that this contact between Rick and Tommy prompted Bob, W4UCH, to finally include a provision for keying his kilowatt. We knew that you would see the light eventually Roberto! Still on the North American continent, VO2HA, Goose Bay, Labrador, is making many of the boys happy with a VO contact. Although this is NOT a new country, the card will be welcomed in most of the shacks. Qsl to K6PDE. Livermore, California. Russ, W1QCC/VE1 promises to haul some gear to St. Pierre island (FP8) and give the boys a chance at a new country, possibly during December or January.

Back in late October, the South Americans appeared in force on October 25, when LU9MA, AT, 6DUH, 3DCA, DDF worked W5, 6, 7 and 0 with strong signals from 0715 to 0845 PST. From 0900-1000 PST, PY-3BW (Brazil) worked W2's, and WOCNM, K6GOX, K6HMK, W7MAH, W7RT, W6BJI, K6PXT, K6SRC and W6BAZ in that order. This was the first PY station to work into the northern and western USA that we know of. W6BAZ reports hearing KV4AH (Virgin Isles) on CW with a very shakey fist on October 19, and K5IQL reports hearing KP4AHK working a YV7 (Venezuela) at 0900 MST on November 10.

Towards the Pacific, results have been spotty, but interesting. As of November 23, no major break through had occurred to KH6, although W6UPS does report hearing KH6UK on cw November 6. A good deal of backscatter from the Pacific, October 25, November 9, 11, 12, allowed several of the fellows to snag W7MAH for their Nevada contact. One very interesting BS contact took place on November 11 when K6RNQ worked KH6UK while both were beaming on JA. KX6BQ (Marshalls) is apparently back on the air, as several JA stations were heard calling him on November 12. Last years' frequency was 50.005-015, and he is FM (probably not intentional!) No sign of W9VHM/KG6 yet, however. The first two way ZL of the season was completed by W6PUZ on October 25, when he keyed with ZL1BJ. On October 26, W6SUE, K6HMK, RNQ heard an un-identified VK5 station (minimum skip distance, 8300 miles) testing on 50.045 from 1322-1345 PST. Word is currently being broadcast over the Australian version of W1AW in an attempt to ascertain who the unlucky chap was, who apparently didn't have the antenna connected to his receiver. On October 28 K6RNQ caught ZL1DE, 1410-1420 PST, and on October 30, ZL1BJ was w[illegible] the

FLASH: FLASH:

With improved production methods at WRA we are able to get later and later news into the VHF column. As I write this (evening of December 4), K6RNQ has just telephoned me the following information; K6GTG, Arlington, Cal. has worked W7LEE, Parker, Ariz. home QTH to home QTH on 220. We hope to have more on this next month. New European stations on six meters: ON4KE, frequency not known, audio percentage very-very low, 30% at best. I1AB, 50.200, worked by K2RRG and heard by K6MZN, Thanksgiving day. Here's hoping this is not a phoney. KR6AF, 50.100, on with CW only, apparently, working W7's in and around Seattle after JA fadeout. Heard by W6KIN and W6FZA on November 29. WOQIN worked KX6BP November 23, so we know that this fellow is on now. W6SUE, BAZ, AJF made AJD (all Japan Call districts) on six meters over the weekend of the 30th of Nov.

John, W7MAH, Reno, Neveda had the remarkable luck to make his WAS on Sunday, November 30, when he caught North Dakota and Wisconsin on Backscatter from Japan. Signals to WOWVR and WOHMV (both N.D.) were 20 db over S9 on phone, which sort of testifies to the strength of the backscatter opening. W9DSP apparently made his WAS when he worked W7MAH, which would be the first "double WAS" to be worked on six to our knowledge (they both needed each other for WAS, as the last state).

If current plans work out, K6EDX and K6UZK will be operating from CS3AC (Azores) with AM and CW gear around January 1-10, and this counts as Europe! Expedition plans are jelling, transportation is looking good, the license authorization is now holding up the works. There wil be no warning through WRA of this 'cause Paul and I will leave for the Azores immediately when the license comes through. The Azores line up perfectly for double hop F2 to W6, 7, and was picked for this reason. Keep your ear to the ground (and listen to ARRL bulletin stations) for further information . . . 73 for now . . .

midst of a JA opening on November 13, ZL2DS was heard by W6BJI while Gib was beaming on JA (1600 PST). In the afternoon hours (1400-1430 PST) of November 14, W6TMI, BAZ and K6RNQ worked ZL1-DE and BJ on CW and phone. Both ZL's reported that they were hearing the Yellowknife, NWT (VE8) beacon at 49.99 with exceptional signal strength, and had been for two hours previous. Looks as if several of the VE and KL7's missed their chance at some south Pacific DX.

NORTH AMERICAN GRAB BAG
(Things You Need to Know!)

The first cross country (trans con) six meter work by F2 this fall was done by K6SRC (San Bruno) and W4CQP, at 0730 on October 16. The first Trans Atlantic work of this fall was minipulated by K2-RRG and EI2W on October 19, 0823 EST.

The IGY stations in Peru were widely heard on October 27 and 30 between 1000 and 1200 PST.

A recent technical paper prepared for amateur consumption by Vic, W7QDJ, is finding a big following with 144 megacycle men. It delves into the tropospheric trade inversions, etc. which theoretically provided W6NLZ and KH6UK with their two meter contacts. 53 mimeographed pages in all, it shows some real research work on the part of Vic; you might scavage a copy here on the coast by asking around in the right circles.

November 7 must have been a holiday for six meter men in Europe, because TV carriers, and misc. commercial garbage was heard as high as 53 megacycles all over the west coast on this date; but no European six meter signals. The highest MUF ever recorded between W5, 6, 7, and Europe, and only one 6 meter contact. WHY?

W5VC, New Mexico, is now on with a WRL Hi Bander and 8 element Hi Gain beam 78 feet in the clouds. This should greatly ease the load on Frank, K5IQL, in handing out New Mexico 50 meg QSL cards.

K2RRG almost made WAC on November 8 when he had a call exchange with JA1-IC. This is the closest we know that a station on the east coast has come to working Asia. W8ESZ was luckier at the same time, snagging JA8AO.

While dealing with the JA's, JA1AXE has 18 countries and 5 continents to his credit. Seems that he is one of the fortunate ones to catch Africa last Spring. JA1BIR has notations on his QSL card of having worked such juicies as VS2DQ, VS6, KH6APB/KG6 (Guam . . . or so it would seem), DU9AW, 1GF, 1LY, etc.

It is strange indeed to hear the JA's on CW this fall. After two years of AM operation only, the CW signals eminating from JA land are welcome indeed. They are still prone to VFO operation, which means that brother you had better watch out when you call CQ. Always check YOUR FREQUENCY FIRST!

W6BJ[illegible]d an unusual QSO on November 1[illegible]en JA8BY was working LU9-MA, seemingly right over Gib's head!

A new KH6 on the band, and very active is KH6CNS/KH6. I hope I don't run into him on CW! (Don't pass him up as KH6-NS).

Working on your WAC YL, 50 meg style? Better catch JA1AEQ/JAO then, cause she is one of the few YL stations on six in Asia.

VE1OD is no longer on from New Brunswick. Glasgow, Nova Scotia is his new QTH —tough luck if you missed him last year.

K5GUP has been exciting the JA boys on occasion, when he forgets to sign /6. Seems he's on from Eureka, which is practically W7 land anyhow, and you know how often the Oregon sevens work into JA.

K5IQL notes that his 4-65A at 300 watts doesn't key so hot on CW, so he sticks to the 6N2 for CW work, and leans on the 4-65A for AM operation. He won't be using either of them much longer though . . . he is working on a pair of 4X250's. And you think you have TVI now, Frank.!

K6ZXS reports the first instance of a Asia mainland six meter signal being heard in North America, when he garnered the AM sig of VS2DQ at 1625 November 20. Wonder if the VS worked anyone stateside?

Numerous W1, 2, 3 stations worked VQ5-GF (Uganda) on November 8, for what amounts to a very nice haul into eastern Africa. Never know what to expect on six meters, do you?

Nevada has a new permanent six meter man, in the person of K7ETR, Fallon. He hangs out around 50.30, and may be good for short Es contacts.

Several fellows reporting hear Slavic and African area language transmissions in the vicinity of 52 megs (51.95, 52.050) during good east coast openings. Don't push the panic button, they are just VOA harmonics from New Jersey.

W3VKQ reports that HB9 stations have been hanging out around 50.32 and 50.35, although they don't appear to be as active as other Europeans.

LAST MINUTE NEWS:

It is happened so fast that we can't keep up with it! W6TMI, Oxnard, made WAC on November 22 by working EI2W. Congratulations Oran, no one deserves it more, here on the coast.

JAOIB was heard calling W5VY at 1507 PST November 19 for what was probably Pat's Asian contact, and his Six meter WAC.

W5SFW, W5MJD, W5BXA apparently made WAC on November 12, when numerous JA's were worked in the Panhandle.

Just to make us a liar as far as our editorial is concerned this month (Rumors, infinum . . .), six meters pulled the biggest switch in history by remaining open until after 1430 PST (1730 PST) November 23, to W1, 2, and VE3. The opening began at 0730 PST and as such runs as the longest trans continental opening on record (7 hrs. plus). This opening does not change the thought behind the editorial, however, and

Continued on page 37

W NEWS

Howard S. Pyle "YB" - W7OE

3434 74th Ave. S. E.
Mercer Island, Washington

Let's start with congratulations to Western Radio Amateur in persuading Jean Kincheloe, K6OQD to join our motley crew of over-burdened 'colyumnists' with a brand new monthly feature dedicated to West Coast YL's! And, welcome Jean, we're glad to have you aboard! Unless your YL's are better contributors than the boys, you'll have a bit of rough sledding and have to pick your news out of thin air, but if they don't send it, what else can you do? Best of luck, Jean.

And..speaking of YL's, when I returned to active participation in Washington Section Net (WSN) after several months of enforced inactivity, I found the net had again acquired a new YL member; Barbara Snyder, W7IGB. After hearing her regular nightly QNI for several weeks, plus calm, steady sending, with a nice fist and professional speed both in sending and receiving, I got curious. I was amazed, in looking her up in Louisa Sando's 'CQ-YL' (page 136) to find that Barbara is 12 years old! Maybe turned thirteen now! WSN has gained a distinct asset in Barbara both from the standpoint of operating ability and in providing currently the only outlet to the city of Spokane! You are most welcome Barbara and you most certainly meet every requirement of this top-notch section net!

I was most pleasantly surprised the other day to receive a nice, long letter from Hap, W7AIB in which he gave me a resume of the 'goings on' up here in the past few months when I was pretty much out of touch. Due to editorially imposed space limitations, I'll make the items brief, but Hap has really given us a pretty well-rounded picture of Pacific Northwest ham activities of late. So...

Don, W7APF, formerly prominent in W7 and PANN net activity, has moved permanently to Alaska. Not heard on the air as yet.

Chuck, W7BXH lost his antenna (wind?) a few months back and has seldom been on his net spots. Too many 'irons in the fire' Chuck?

Another missing net member from whom nothing has been heard for a long time, is Lio, W7CZX. How come, Lio? Still at Ilwaco?

Bill, W7EMY, Firchild air base transfered to far places; lost our Spokane contact until our staunch little Barbara W7IGB, took over the spot.

Dave, W7DPW has joined the W7 net crews and has been a regular check-in for several months. Others who have drifted back into greater activity again are W7ETO Al, and George, W7FRU. Tate, W7FWD in Olympia has been silent for some time now; wonder what goes. W7GVV apparently has finished his part in a group boat building project in Port Angeles and is once again heard frequently.

Gary, W7FZQ has been hot-rodding and 'chasing girls' all summer! Says he has run out of money (Girls take a lot of it!) and school has started again so he's back on the air more often.

W7GIP, Joe, formerly of Cashmere, has moved to Spanaway near Tacoma, and is heard regularly on 80 CW.

No hear Ron, W7GJS of Moses Lake, for some time. Maybe transferred out? Anyone know?

Van, W7JC, now and then; hasn't settled down for the fall season yet maybe! We're watching for you Van.

W7JEY has finished his teacher training in Bellingham and is now teaching in Everson; heard pretty regularly on the nets.

Another missing note; Harry, W7KHL. News, anyone?

W7LEC suddenly sold his gear and left the air. No one appears to know why!

Other regulars heard consistently are Roy, W7LVB, Dan, W7USO, Homer, W7NWP, Ev, W7OEB and John W7QLH. W7WAH, Pete, occasionally heard and promises to be on more frequently with his main rig at school.

We were pleased to welcome Brooks, W7RXH back to the gang the other evening. Hope you finally got those two sticks up BB! Going to be one of the 'regulars' again?

And Hap himself, W7AIB, in addition to being one of the really consistant stations on the air, has just acquired a new rotary beam with trick tower, rotator and the works in general. Watch for him on the higher frequency bands when he returns from a vacation in the south.

And if all of that news of the gang sounds like the "NEIGHBORHOOD GOSSIP" Column in the PODUNK WHEEZE, at least it DOES give you the low-down on many of the gang. Thanks. Hap!

Antennas

"Judge" WØLMB/7
202 S. 124th
Seattle, Washington

The original "Workshop" beams came out back about 10-12 years ago. I got my 10 meter beam from W7WA and the 20 from W7IV. They were very popular and many are still in use today including here at WOLMB/7. Quite a few have asked me why do I still use them? They have many advantages such as direct matching to the driven element, no gammas, and extreme bandwidth. The gain, however, is only 5.5 db and the front-to-back is 18 db. The actual front to back varies considerably with conditions as I have had as much as 40 db on some reports. Keep in mind, however, I have plenty of room for antennas. For crowded areas a good tri-band is still hard to beat.

The main design feature of a workshop is that the director is 12½ percent shorter and the reflector is 8½ percent longer than the driven element with a spacing of .12 and .17 wavelengths. This means that the director is resonant up about 30 mc and the reflector is resonant below 28 mc. As a result they don't "bite into" the driven element with a resulting impedance increase. In fact, this beam was tuned for 52 ohms rather than for maximum gain or front to back. Yes, I said 52 in the center of the split driven element. This, of course, means that RG8U will match directly, no gamma or T match or balumns or quarter wave stubs are needed. As a result of the shorter and longer director and reflector the bandwidth is greater than with the driven element alone. No other beam can make that statement.

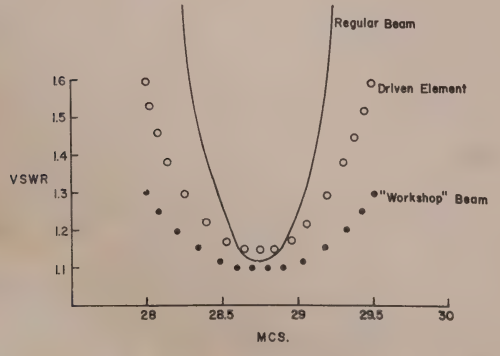


Fig. 1 Response curves of Workshop Beam. Workshop driven element alone and a conventionally [illegible] beam. Note 400kc of zero reflected power or 1:1 VSWR.

MODIFICATIONS TO THE OLD WORKSHOP ANTENNAS

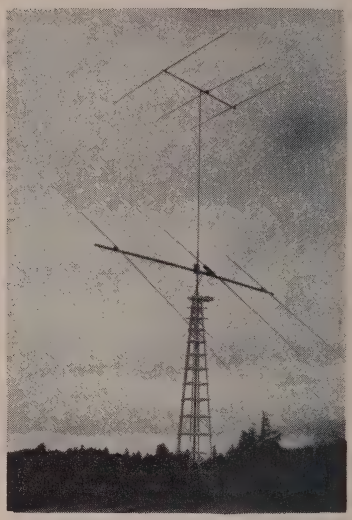


Fig. 2 Workshop 10 and 20 at W7GCO. No interaction either. Beam is tipped for polarization checks.

I can hear all experts talking now, you know, all those with 10 years' experience as technicians in the Navy, etc. I could tell you many stories of the arguments I have received at club meetings, etc. "Who are you trying to kid? The impedance of that beam is not 52, etc., etc.

This is what would be called a low Q beam. The Q pertains to bandwidth in this case rather than efficiency. Even though the gain is 1½ db lower than what it would be if it were tuned for maximum gain, the beam tends to hold its gain over the entire band and it could be said that its full band efficiency is higher than a regular beam. This means wide excursions of frequency can be made without redipping. Because it's a low Q beam, it's virtually unaffected by surrounding objects also. It can be interlaced or stacked with negligible effect on the beam. In many respects it's a ham's dream.

The element construction is as follows: The director and reflector are constructed of 3 different diameters, ¾" telescoped with ½". The driven element is 5/8" telescoped with ½". These diameters and the particular lengths (and spacing) are necessary in order to end up with 52 ohms. With the bandwidth as great as it is being off the resonant frequency 100 or so KC isn't really noticeable. I have also noted that there isn't any vibration of elements in the wind where you have more than two different sizes of tubing per element. The director and reflector are grounded directly to the boom. The split driven element is insulated from the boom in a black plastic holder

which allows the coax to come up through the boom or through the side of the holder.

Considering 10 is 1700 Kc wide it's the only beam for that band. You could even cover 11 meters with it too.

This broadbanding feature is used by the tri-band boys in order to raise the impedance close to 52 at a sacrifice in gain but, of course, at an increase in bandwidth. The Hy-Gain Tribander has been retuned since the gammas were added and as a result picked up additional gain and front to back and front to side. Front to side could be considered more important than front to back because there are two sides compared to only one back. The Hy-Gain has the best pattern of the tribanders on all three bands.

The "Workshop" people pulled a real boo boo on their 20-meter beam. They used the same formulas that were used on the 10-meter beam. Well, this is ok if you double the tubing diameter. The tubing sizes should have been 1½, 1¼, and 1 inch. Instead of using three different element sizes they used five and started with 1¼" rather than 1½. They telescoped down in a hurry ending up with ½ inch again. The result of the smaller and two additional sizes was that the resonant frequency was about 14.9 and the impedance was (you'll never believe it) 68 ohms. You could match it with either 52 or 75 ohm line and still be in the ball park. Even with the resonant frequnecy so high the beam worked well down in the 20-meter band because of its tremendous bandwidth. However, it would have worked better if it were resonant in the 20-meter band regardless of bandwidth.

The other undesirable feature of the 20-meter Workshop as far as I was concerned was the double boom. This was a pain in the neck. So some changes were in order. Number one was to add 1 foot of 3/8" tubing to the end of each element thereby lengthening each element 2 feet. This now made 6 different sizes of tubing per element. The resonant frequency is now 14.1. The reflector length is now 38½ feet long (the extra 2 feet plus the 8½ percent rather than 5 or 6 percent longer). The element is still very light considering its length because of the small tubing towards the ends.

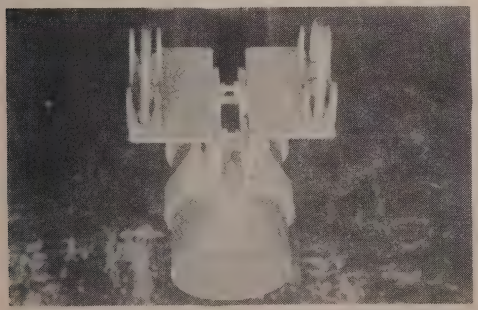


Fig. 3 Element mount on 20 meter beam. Mount will be available from the author for 3 or 4 inch booms soon.

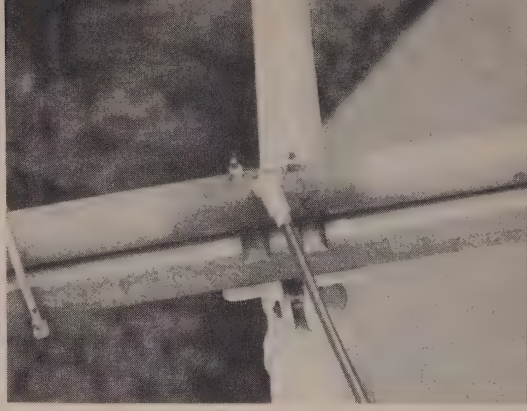


Fig. 4 Split driven element of Workshop 20 meter beam. Impedance is 68 ohms, believe it or not.

I used a single 3" irrigation pipe with a newly designed element mount as shown in figure 3. It's solid as a rock, easy to adjust on the boom and element mounting is quick and sure. The muffler clamp that supports the elements are heavily cadmium plated. The rest is all aluminum. The muffler clamp will handle up to a 1-5/8 inch OD element. If for some reason you had a bigger element, larger muffler clamps can be obtained.

The driven element was mounted on a 2 x 4 with two large U bolts for fast assembly. See Fig. 4.

I have more bandwidth on 20 than I need, as 20 meters is only 350 kc wide. The pattern is quite broad (68 degrees to the half power points) and this leaves something to be desired particularly on 20 where you need gain and front to back and front to side. Since I have a 68 ohms impedance, 16 ohms higher than I would like it. I plan to lengthen the director which will sharpen up the pattern and lower the impedance.

On the last field day W7EWP couldn't believe his eyes when he saw that he only had to redip slightly when he changed frequency from 14,220 kc down to 14.050 kc.

How does it work? Well, listen for me on 10 and 20 and you shall hear. I can call CQDX on phone with it pointed on Europe and I have had as many as 5 DX stations calling me at one time. It's quite frustrating turning back and forth trying to find out who they all are. Many times I have received the report "One of the few readable signals on the band," etc., etc. On 20 I have worked one hour phone patches into the Pacific and that's not my good direction either. It's only 35 feet high too.

I have heard groans about the fact it only has 5.5 db gain. I defy anybody who claims he can tell the difference between two beams, one with 1½ to 2½ more or less gain on the routine contacts. The Workshops do not have any matching system loss. The 10-meter beam is direct match with no more current at the feed point than in the coax. The 20-meter beam im-

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. . . WITH THE YOUNG LADIES

JEAN Kincheloe K6OQD
6625 N. Brightview Dr.
Glendora, Calif.

Another YLRL Anniversary Party is behind us. Hope you all enoyed it as much as I did. I worked five more states toward my WAS-YL including Utah which makes me very happy. Now if I can just find out where they have buried that girl in Delaware! Every time I heard a W3 YL on, I got goose bumps but not a one of them turned out to be in Delaware. Oh well, maybe next year.

The LAYLRC is having their Christmas Party on December 13th at the home of Ruth Shaw, K6PRA. A lovely luncheon is being planned and there will be an exchange of gifts. January's meeting will be held at the telephone company building in Los Angeles after which there will be a tour of the plant. Be sure and let Midge, K6BUS, know if you plan to attend so she can tell the telephone company how many to expect.

If any of you haven't heard about it yet, Louisa Sando, W5RZJ, has put in a lot of time and energy on her book, "CQ-YL." It is 165 pages dealing exclusively with the YL Ham and no self-respecting YL should be without it. You may get a copy by sending $3.50 to Louisa B. Sando, 212 Sombrio Dr., Santa Fe, New Mexico. This would be a very nice thing to put in your letter to Santa Claus.

I received a nice letter from "YB" with a suggestion for a Pacific Northwest YL correspondent for this column so by next month I hope to have some news from up that way. Now, does any other helpful soul have any volunteers in other areas for similar positions?

Just received my copy of the Certificate Directory published by Bill Clark, W3RPG, of Harrisburg, Pennsylvania. I believe that this is two dollars well-spent. It lists over 100 awards issued in the U.S. and possessions and over 100 foreign operating awards and also a separate listing of YL awards. For an additional dollar per year, you may subscribe to the revisions which you may receive either monthly or quarterly. If you are a certificate seeker, this is a must for the ham shack.

I was sorry to hear that Lois, K6HYH, is in the Methodist Hospital in Arcadia. Good luck to you Lois and I hope that by the time this is in print you are on your feet again and feeling fine.

Congratulations to Pat, K6PFY, on the birth of her grandson. To those of you who are looking for contacts for the Grandmothers' Certitficate, take note. Pat is a registered member of the Grandmothers' Club.

Already I have to list corrections in the list of YL [illegible]s. The 15 meter YL Cross

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Loupin the Loop

By Corky W6ORS

1833 Vega St. Alhambra, Calif.

This months column is necessarily going to be short, to the point, and I hope sweet. Reason? It's because this op is making a grand tour of the mid-west next week, and take-off time is 4:15 p.m. today.

Guess the most important information around the Loop this month, is the preliminary approval given by the SoCal Council of Radio Clubs for the 1959 Southwestern District Convention. The proposal was presented ointly by the SAN GABRIEL VALLEY RC and the RAMONA RADIO CLUB, both from the San Gabriel-Temple City area to be staged in the same area or in Pasadena. I say preliminary approval, for the final OK has to be given by the SoWestern District Director of the ARRL, to be elected this month.

Two of the fellas running for the post have voiced their approval, and only the candidate from San Diego to be heard from.

New officers of the Radio 50 Club include Harry Gross W6FZL Pres, Cavi Cavadini W6GYH Treas., Corky Kirk, W6ORS Sect. (who's he?) Hugh Slate W6WNF Master at Arms, Doc Albaugh W6KOS Director, and Ray Meyers W6MLZ Director . . . DID YOU KNOW THAT DEPT . . . Johnnie Tao received his general K6OQQ, W6TTY A1, lives near a swimming pool and has his operating position so he can enjoy the scenery . . . The inter County Net on 221.5 me getting bigger and bigger, thanks to Ralph K6GKX . . . Dale W6BGK won the homebrew contest at the TRI-COUNTY RC meeting last month. 'Tis told that a complete VHF xmtr es rcvr in one cabinet took the prize . . . Speaking of the Tri-County Club, they swiped the Ramona RC gavel in the last of their excursions . . . Palo Alto RC held their annual Auction in Sept. Wonder how it turned out . . . Received the club paper of the Fort Ord Amateur Radio Club last month. The first of its kind. Thanks a lot OM, it's great to hear from you-all . . . Received a real nice letter from Vic Gish, W7FIX Editor of PAN News the Traffic man's Bible. If there are any tfk minded people in this captive audience, please write to Vic and send him a couple of bux for the most up-to-date info from the Pacific area traffic nets. Ol Vic sure can pack it into this grand publication . . . Well, guess I'll quit while I'm ahead. The paper is about to be put to bed, and I think I'm late as usual. Hp 2 CU agn nxt month. 73.

Visited J. J. Candee Co. out at 509 Victory in Burbank last month. This company has some real clean gear at good prices. Be sure and stop in if you get out that way.

73 Corky, W6ORS

San Diego Zero Beat

E. H. Marriner, W6BLZ
528 Colima Street
La Jolla, California

Wow! what a convention. The SSB **gang** also had a breakfast with a turn-**out larger** than was expected. 1955 **there** were about 30, this time we had **about** 150. Who said SSB isn't expand-**ing?** All the SSB gang were surprised to receive so many prizes. Who do you think won the breakfast door prize of $100. given by Western Radio and TV? This is no fooling, our editor Art Brothers won it and turned right around and gave it to the Braille Institute for the Blind. A big hand should go to all the SD Convention gang who stayed by their posts for the full three days so that others might enjoy themselves and see the exhibits. It was a lot of fun to visit fellows you had talked to on the air and also visit with fellows you had not seen for 25 years. So much was going on it would be hard to cover the whole convention.

Friday evening Don Stoner wanted me **to look** over his new SSB book which **will be** out shortly. We sat in the hall **of the** hotel. The hall was lined with mirrors from the floor to the ceiling. Just across the hall was the exhibit room of Western Radio and TV. So many fellows came out the door and walked right into the mirror that Don couldn't contain himself any longer, he went in to see just what they were exhibit-ing. That's the last I saw of Don that evening.

The SD County call book is finished, the first copies were sold at the con-vention. It is a big help to find phone numbers, if you haven't got one write Western Radio and TV.

Pardon me if I mention our namesake so often, but anyone who gave as many thousands of dollars in prizes to make the SD convention a success deserves a little noise, especially when they are one of our advertisers.

Some SD notes, W6BLK, Red Truax makes the first 1296mc contact with L.A. using a 2C39 Tripler driven by an TX9903. W6JRK was at the other end of the line. Red also worked W6DQJ in Rivera all over 100 miles. The SD chaps interested in this line-of-sight work may be interested to know there is a 'SD Microwave Group' formed here to exp-lore these high frequency bands of ours. If we don't stimulate activity on them they may be gone with the wind. If you are interested, write W6BLK for more information.

'Tiny' is back on SSB, W6QJH told us when he sold his 20A that he was nev-er coming back and here he is on the band a year later with a 'Pacemaker'. W6JPM bought a 'Thunderbolt', W6ECP a new 75A4 and W6ATP let loose a tornado and bought a NC300 with all converters, Johnson KW, a 6 and 2 meter outfit, CE-100V, and a mess of beams. Wow! amateur radio here I come. Al Wundes is the first WA call I have run across. Al is WA6BHY, pretty soon we will need a tape to send our calls for us if they get much longer. W6NAT is holding a class in fundamentals in the city of Vista. If you are in need of help up that way here is your chance.

The Council of Radio Organizations for SD is now incorporated thanks to T.T. Chrittenden. Incidently, Tom isn't even licensed anymore and does so much for the SD amateurs. Probably a lot more than some who should.

W6BKZ is doing a very fine job meet-ing with the Home Appliance Bureau to find out what can be done in SD con-cerning interference problems. We hope a lot.

Note here from W6FOP who would like to hear from Masonic Brothers in-terested in forming a Trowel Club in the SD area for the good of the SD gang. He can be reached by writing to 3623 3rd Ave. SD, 3. He has a large number signed up already. K6AM will have some pictures for us when he gets back from a flying trip over into Indo China and the Angor Wat temple, along with any other information he might pick up on amateur radio enroute.

Well fellas, now that we have many new subscribers thanks to our messen-ger of good-will, Art Brothers tapping each and every one at the convention for a subscription. I hope you will send me some news to put in the SD column. This is our best way to let each other know what is going on around down North of the border.

SSB Convention Feb. 13-14 Santa Bar-bara Write W6ZHH for info and ticket. $5. Now we in San Diego need 40 fellas so we can charter a bus leaving SD Fri and returning Sun. Cost abt $10. If you are interested write me or call GL 4-3527. Don't send any money for bus yet until we see if we can get enough signed up.

-AR-

a Special Message to our Readers

Dear OM:

We need your help. As you no doubt know, there are many Hams who haven't heard about Western RADIO Amateur magazine. You, as a subscriber are in a good position to assist us in locating these Hams and prevailing on them to subscribe.

You see, we need subscribers so we can attract more advertisers to the magazine. The more readers we have, the more advertising we are able to secure and as this is what pays the bills . . . we are able to give you a better magazine. There are many things that we would like to give you including services that would benefit all Hams. But, until we are able to earn money to cover the cost of these features they will sit - - - and wait.

So if you want more for your dollar, it would behoove each and every one of you to make it a personal project to get just one person, or two, to subscribe.

Won't you take this or a past issue of WRA to your next Ham Club meeting and show it to your neighbor. Show him the many fine features each issue contains. Point out that WRA is the only publication in existence that offers a complete and comprehensive Antenna column each month. "Just how many times have you," you might ask, "installed an antenna and wondered if it was exactly right!" WRA's Antenna column tells you how and gives you a liberal education in the process.

Then there are other WRA exclusives. Like our Amateur Radio and the Law series. Do you know the story of how the law affects Amateur Radio? How the law affects you? What your rights are . . . Again . . . show him our Ham Ads where large bargains may be secured for little cash . . . or the Club Bulletin page. How many times have you traveled and wondered where the local club was meeting?

In all the above don't forget to show the prospective subscriber our VHF and DX Columns, rated number one in the nation by your fellow hams. Not to mention our other outstanding writers such as Ed Marriner, Don Stoner, Jean Kincheloe, Corky Kirk, and others.

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THE LEGAL BRIEF

Maurice J. Hindin W6EUV

THE CASE OF ST. LOUIS PARK vs. CASEY

The case of The Village of St. Louis Park vs. Thomas J. Casey is a landmark case in which no question of federal control was involved. It was a case between a "ham" and the officials of the town in which he lived. The case went through all of the state courts of Minnesota and finally was decided in 1944 by the Supreme Court of the State of Minnesota. For those who would like to read the opinion of the Supreme Court of Minnesota, the case is cited as 16 N.W. 2d, 459; 155, A.L.R. 1128.

Mr. Casey was a "ham" and he erected a 30-foot telphone pole in his yard and mounted a 3-element rotary beam on it. The village of St. Louis Park where Casey lived had a zoning ordinance which prohibited the use of property in a residential zone for any use other than uses incidental to private homes. The city officials brought an action against Mr. Casey to compel him to remove his antenna pole and beam on the ground that amateur radio is not an incidental use of residential property.

Mr. Casey fought the case.

The Supreme Court of Minnesota held as a matter of law that amateur radio activity is a proper incidental use for residential property, and, therefore, held that the city could not compel Casey to remove his antenna.

The Supreme Court used the following interesting language:

"The use of short-wave amateur sets for both reception and transmission is so common in the United States that the Federal Communications Commission licenses such sets for transmission within certain wave lengths . . . that many if not most of these amateur stations are operated in connection with residences is too well known as a fact to be ignored."

This judicial recognition of amateur radio work by a State Supreme Court was a first in recorded reports of any State Supreme Court. The case has been repeatedly cited as authority for the proposition that in and of itself amateur radio activities do not violate residential zoning restrictions and is a proper incidental use for residential property.

There was no question in the Casey case with reference to violation of any building ordnances or safety ordinances.

It should not be taken for granted, however, that the case of St. Louis Park vs. Casey stopped local attacks on amateur radio activity. Many cities, while accepting the doctrine of the Casey case have sought to harrass and restrict amateur radio activity through ordinances imposing building restrictions, building permits, engineering restrictions, electrical restrictions, and other restrictive legislation. — AR —

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SEATTLE HAM MUSEUM CLOSES

After operating most successfully for something more than a year, the museum of old-time amateur wireless and radio gear at the establishment of Pacific Electronic Sales Company in Seattle, has been discontinued.

Sponsored by the Northwest Chapter of the Quarter Century Wireless Association, this display of early equipment was viewed by more than a thousand hams not only local, but from all over the United States and from several foreign countries, who were passing through Seattle!

Two reasons determined the discontinuance. First, due to greatly increased stocks and added lines, the store was badly in need of the space which the display occupied, and, it had been noted that entries in the visitor's registration log had been falling off the past few months indicating that probably all of the interested hams in the Seattle area had seen it once or more times and the occasional visitors were out-of-towners passing through.

It was felt that the display could, to better advantage, be moved to some other Northwest city and set up there. At a meeting of the Historical committee of the Quarter Century Wireless Association, Northwest Chapter, an even more ambitious plan was developed. It was decided to set up such displays simultaneously in three Pacific Northwest cities.

Spokane and Tacoma, Wash., and Portland, Oregon, were chosen and negotiations commenced for suitable space. Arrangements were completed with Northwest Electronics in Spokane and a nucleus of equipment sent over there where W7IH and W7JY are building up a nice display. Spokane amateurs are invited to donate or loan old-time ham gear to increase the interest. Contact either W7IH or W7JY if you have something to offer.

In Tacoma, negotiations are going forward although at this writing, no definite space commitments have been made. We will keep you informed through these columns. In Portland, arrangements have been completed with Bill Lucas of Portland Radio Supply and a display case will be fitted up sometime in early December or before. Both Tacoma and Portland hams are also invited to add to the interest of the displays by loan or donation of old equipment.

Judging from the most favorable comments and great interest shown in the Seattle display, we feel sure that the three new locations will also produce a most gratifying amount of interest not only among the 'old-timers' but to the novices who are curious about what the old time gear 'looked like'.

-YB W7OE

Howard Shepherd, W6QJW to address Joint Dinner Meeting

The annual joint dinner meeting of the Rio Hondo and Whittier 50 Radio Clubs will be addressed by Howard Shepherd, Jr., W6QJW, prominent Southland attorney, who has defended many local amateurs in matters involving amateur radio. His subject will be "The Amateur, the Public and the Law".

The meeting, to be held on January 16, at 6:30 PM, at the French Cafe, 2121 W. Whittier Blvd., in Montebello, will feature the installation of new officers for the Whittier group and the awarding of a trophy to the "Riohon of the Year"; the member of the Rio Hondo group who best exemplifies amateur radio. Previous winners have been Bill Volkmor K6GVI and Dr. Sam Walker K6IRY.

Reservations for the dinner may be made by calling OXbow 8-5695, or by writing to P.O. Box 25, Whittier. Dinner, choice of roast beef or chicken is $2.50, tax and tip included.

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P.S. I run the joint, Ray Fulton K6BP

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Club Meetings

AMATEUR RADIO CARAVAN CLUB OF NEW MEXICO. Albuquerque. All mobile club, meets ea. Wed. 7:30 p.m. MST on the air 29.6mcs, followed by activity at 8:00 p.m. 29.6mcs monitored; visiting hams urged to check in and participate.

ASSOCIATED RADIO AMATEURS of Long Beach meet first Friday ea. month. Signal Hill City Hall. Hill and Cherry.

BAY CITIES AMATEUR RADIO CLUB: meets every Wed. eve. 7:30, room 55 Santa Monica High School, 6th and Pico Santa Monica.

CATHAY RADIO CLUB: meets 2nd Fri. each month Cathay American Legion Hall 8:30 p.m. 1524 Powel St., San Francisco.

CITRUS BELT AMATEUR RADIO CLUB meets every month 1st Fri. 8. M. IOOF Hall in Colton. Rod Davis, Pres.

COACHELLA VALLEY AMATEUR RADIO CLUB meets 3rd Wednesday ea. month at 45680 Deglet Noor St., Indio, Calif.

CORONADO RADIO CLUB: meets 2nd & 4th Fri. at the Red Cross Bldg.

CRESCENTA VALLEY RADIO CLUB meets 2nd Tues. ea. month at La Canada Elementary school at 8 P.M.

DOUGLAS EL SEGUNDO RADIO CLUB meets 2nd Wed. ea. month Richard Henry Dana Junior H. S., 135th & Aviation Blvd., Hawthorne, Calif. 7:30.

DOWNEY AMATEUR RADIO CLUB meets 2nd & 4th Tues 8 P.M. at the new Imperial School. Imperial Highway between Downey Ave. and Paramount Blvd.

EAST BAY RADIO CLUB meets 8 p.m. 2nd Fri. each month at the Cornell School. Albany, Calif. Club call W6CUS.

EAST VALLEY RADIO SOCIETY meets 2nd & 4th Fri. 8:00 p.m., LaPuente City Hall Council Chambers.

EVERGREEN 50 & UP SOCIETY meets Fri. eves. 847 E., 94th St. Seattle, Wash. contact Bill McCafferty W7UZB for information.

FAR WEST RADIO CLUB meets 2nd & 4th Thurs. Veterans Memorial Bldg. Fortuna, Calif.

FRESNO AMATEUR RADIO CLUB meets 2nd Fri. each month at the Pacific Gas & Electric Co. Building Auditorium.

FULLERTON AMATEUR RADIO CLUB INC. W6ULI meets in American Legion Hall 2nd Wed. of each month.

GOLDEN EMPIRE AMATEUR RADIO SOCIETY INC. (GEARS) meets every 3rd Fri. at Region 3 Civil Defense Hdq., 7th & Cedar St., Chico, Calif.

HAYWARD RADIO CLUB meets second and fourth Fridays at Hayward Airport North end of field.

HELIX RADIO CLUB meets 1st Fri. ea. month at Gillespie Field CD Hdq., El Cajon, Calif.

HUGHES AMATEUR RADIO CLUB meets 1st & 3rd Sat. 2: p.m., 650 E. Manchester Ave., Inglewood, Calif.

INGLEWOOD AMATEUR RADIO CLUB meets 2nd and 4th Friday ea. month at 105 Grevillea, Inglewood.

LEWIS COUNTY AMATEUR RADIO CLUB, (ARRL Affil.) meets 1st and 3rd Monday in County Court House, Chehalis, Washington on US 99, 8 pm. You are welcome W7NTO.

LAGUNA BEACH AMATEUR RADIO CLUB meets 4th Friday ea. month at City Hall, Laguna Beach.

LAKE WASHINGTON AMATEUR RADIO CLUB W7BB Bellevue, Wash., meets 1st & 3rd Wed. ea month. For details contact Al Wolfe, W7SOY. Phone SHerwood 6-1116.

LA MIRADA AMATEUR RADIO CLUB meets 1st Mon. ea. month Rancho School, Demanda & San Cristobal 7:30 p.m.

LITTON RADIO CLUB K6WYB meets 1st Thurs. ea. month. Litton Industries, 336 N. Foothill Rd., Beverly Hills, Calif.

LIVERMORE AMATEUR RADIO KLUB: meets 1st Fri. ea. month 7:30 p.m. Recreation Center, Livermore Calif. Code and theory classes on Fridays.

MARIN AMATEUR RADIO CLUB meets 8: p.m. 2nd Fri. ea. month Red Cross Chapter House, 712 N. 5th St., San Rafael.

MIKE AND KEY CLUB meets 1st & 3rd Tues. ea. month at the Encanto Community Center 65th & Broadway, San Diego, Calif.

MOBILE RADIO CLUB OF SOUTH GATE: meets 1st & 4th Thurs. ea. month at 10131 Mallison Ave. South Gate 7:00 p.m

MOJAVE DESERT AMATEUR RADIO CLUB meets 2nd and 4th Sundays at 2:00 P.M. Northrop Recreation Bldg., Palmdale.

MT. DIABLO RADIO CLUB meets third Friday, 8 p.m. Contra Costa J. C. in Concord.

MOUNTAIN VIEW AMATEUR RADIO CLUB meets 1st Thurs ea. month at the new Central School Cafetorium, 14741 E. Central Ave., Baldwin Park, 7:30 P.M.

NEWPORT AMATEUR RADIO SOCIETY meets 2nd & 4th Fri. ea. month at Parks & Recreation Hdqts. Bldg., 1714 W. Balboa, Newport Beach, Calif.

NORTH BAY AMATEUR RADIO ASSN. meets 1st Fri. 8 p.m. Red Cross Bldg. 508 Alabama St., Vallejo, Calif.

NORTH SEATTLE AMATEUR RADIO CLUB meets 2nd Thurs. ea. month at 96th & Roosevelt, 8: p.m., Seattle, Washington

NORWALK RADIO CLUB meets 2nd and 4th Wed. at Los Alisos School Auditorium, Maidstone and Excelsior Drive.

OAKLAND RADIO CLUB meets 1st Fri. ea. month 8 p.m., 906 Fallon St., Oakland, Calif.

ORANGE COUNTY RADIO CLUB meets 3rd Wed. ea. month at 12502 Placentia, Santa Ana.

PACIFICO RADIO CLUB K6BAG meets every 2nd Sunday ea. month 9048 W. 18th St., Los Angeles. Contact W6NJU.

PALISADES AMATEUR RADIO CLUB meets 2nd and 4th Tues. ea. month at Rustic Canyon Club House, 601 Latimer Rd., Santa Monica Canyon.

PALO ALTO AMATEUR RADIO ASSOCIATION meets 1st Fri. ea. month at Menlo Park City Hall, Menlo Park, Calif. 8 p.m.

PASADENA RADIO CLUB meets 2nd & 4th Fri. ea. month 8:00 p.m. basement of Altadena Sheriff station 780 E. Altadena Dr., Altadena, Calif.

PORTLAND AMATEUR RADIO CLUB meets 2nd & 4th Fri. 8 p.m. Portland Civil Defense Training Center 3031 S. E. 101st Ave., Portland Ore.

RIO HONDO RADIO CLUB meets 1st Sat. of the month at Palm Park, Whittier.

RIVERSIDE COUNTY AMATEUR RADIO ASSN., INC. meets 2nd Fri. ea. month 8 P.M. Arlanza School, Riverside (near Rohr Aircraft plant)

RAMONA RADIO CLUB meets 2nd Mon. ea. month, Fire House, 605 S. Del Mar, San Gabriel.

RYAN AMATEUR RADIO CLUB meets 1st and 3rd Wed. 7:30 in Balboa Park.

SACRAMENTO AEROJET RADIO CLUB meets 2nd Mon. ea. month at Aerojet Nimbus plant site. Club call W6IJK

SAN BERNARDINO MICROWAVE SOCIETY meets 1st Thurs. ea. month at Chaffey College, Ontario.

SAN DIEGO AMATEUR RADIO CLUB meets 1st Mon. ea. month American Red Cross Bldg., 3650 5th Ave., San Diego.

SAN DIEGO DX CLUB meets 3rd Tues. each month at various homes. Call W6BZE or W6LRU AC 2-2933 for info.

SAN FERNANDO VALLEY RADIO CLUB W6SD meets 1st & 3rd Fri. ea. month at the American Red Cross, 14717 Sherman Way, Van Nuys, Calif. at 7:30 p.m.

SAN FRANCISCO RADIO CLUB meets 4th Wed. ea. month Forest Hill Lodge, 266 Laguna Honda Blvd. San Francisco.

SAN GABRIEL RADIO CLUB INC. W6QFK meets 1st Tues. ea. month at Bowling Green Club House, Arcadia Park.

SAN GORGONIO PASS AMATEUR RADIO CLUB meets 2nd Monday ea. month 700 Magnolia Ave., Beaumont, Calif.

SANTA BARBARA AMATEUR RADIO CLUB meets 3rd Fri. ea. month 7:30 P.M. Recreation Center. Anacapa and Carrillo Sts., Santa Barbara. P.O. Box 273.

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Among those Hams interested in beam antennas, many are concerned with the feed systems employed. It is for these Hams that we shall attempt to explain the wonderfully simple—yet highly efficient—feed system used in both the *Trap Master* and the *Power Master* series of MOSLEY beam antennas.

The beliefs that a balanced radiator element cannot be fed with an unbalanced line and that the impedance at the center of the element is not of a suitable value to permit direct connection of a 52 ohm coax line are not always correct. We will show, with authoritative references, that antennas *can* be designed to take advantage of the simplicity of such a system and still provide low VSWR over a broad bandwidth and a symmetrical radiation pattern. Page numbers will refer to the ARRL Antenna Book, seventh edition.

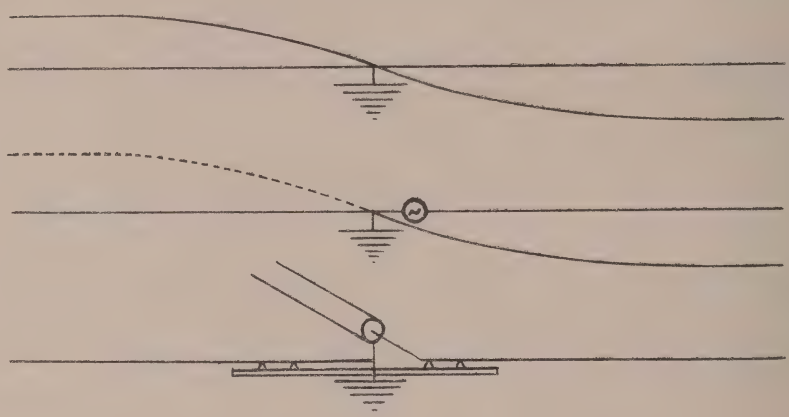

Fig. A

Fig. B

Fig. C

The voltage distribution over a half-wave radiator is shown in *Fig. A*. Since voltage is *zero* at the center, a ground may be placed at this point. *(Page 26)*

There are a variety of methods for introducing energy into the antenna. A balanced line may be connected directly to suitable points at each side of the grounded element center—a method commonly called the *delta* match or, with slight modification, *T* match. To connect an unbalanced line to a grounded un-split element, the *gamma* match from grounded center to a suitable point at one side of center may be used.

However, the element may be split at the center and fed with either a balanced line without a ground at the center or an unbalanced line with or without a ground at at the center. With an unbalanced line and ground on *both* the outer conductor (coax braid) and antenna center, a voltage introduced just off center in the position of the power source (*Fig. B.*) will introduce a voltage in this excited side, as shown. With the other half of the antenna element an integral part of the circuit, voltage will appear as indicated by the dotted line. Since the end of the feed line is fundamentally the same as a power source it may be replaced in the circuit, (*Fig. C.*), resulting in a balanced antenna fed with an unbalanced line. The ground at the center helps to minimize stray feed line currents to achieve the balanced pattern. (*Pages 98–100*) (*See, also, page 224, Fig. 10-10*).

Curves on *page 169, Fig. 4-51,* show how a three element beam, by correct tuning and element spacing, may present a feed point impedance of from 10 to 70 ohms. Of course, MOSLEY beams are tuned and spaced to present 52 ohms at suitable tuning points with low VSWR over the entire bands of operation and to achieve proper voltage distribution for a balanced radiation pattern.

With the Young Ladies

Continued from page 20

Country net now meets on Wednesdays at 0930 PST on 21.390 Mc. The 10 meter Hair Pin Net has changed frequency to 29.130 Mc. The 40 meter YL Round Table in Southern California has changed time to 0930 PST. Hope I didn't louse any of you up on your schedules. Just received word from Jennie, W5YSJ, telling me about the Loaded Clothesline Net which meets each Monday at 0900 MST on 7235 Kc. Present NCS and President is Lucille, K5GYZ. Jennie tells me that certificates have been ordered and the method of procuring same will be announced before long.

I received a letter from a YL in Pico-Rivera, California, who is interested in becoming a ham but doesn't know how to begin. She wants to know if there is a ham in her locality who would like to take her under their wing. Does anyone have any suggestions that I might pass on to her?

Business is picking up this month. I have received three letters and two post cards. They were all helpful and not one suggested that I go back to my knitting and leave the writing to someone who knows how, hi! Keep them coming; the more the merrier. It is only in this way that I will be able to keep this column going.

ARL sixty-one to you all.

33,
Jean.

In Memorium

To

Elliot "Al" Lasky

K6DJL

From an old friend

Sideband Convention

Western Sideband Convention, to be held February 13th to 15th, 1959 at the Hotel Miramar, Santa Barbara, Calif. All side band operators and those interested in the technique are invited to attend, starting Friday evening, Feb. 13th and ending early Sunday morning, Feb. 15th, 1959, to enable everyone to drive home on Sunday at leisure

Convention tickets will be $5.00, which will cover a $4.00 prime rib dinner banquet with all the trimmings, badges, postage, and several prizes. Hotel reservations at the Miramar will be $10.00 per double room or $5.00 per person per night.

Mail your check for $10.00 to A.H. Fischer Box 568, San Pedro, Calif. to cover hotel deposit and convention ticket, and specify what night hotel accomodations are desired. Checks should be forwarded as soon as possible.

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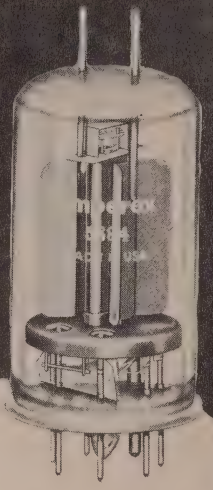

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DC Grid No. 1 Voltage	−80	−80	−80 volts
DC Plate Current	2x80	2x100	2x90 ma
DC Grid No. 2 Current	17	16	14 ma
DC Grid No. 1 Current (approx.)	2x1.5	2x2.5	2x1.7 ma
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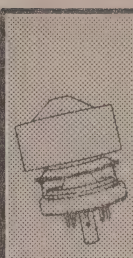

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Continued from page 2

name have a business office phone and address that can be obtained from your telephone book or information operator. Those with (**) have an unlisted home telephone number and refused to divulge the number to me. I advise you to call the office number first or during business hours. If you can't do this, feel free to call the home number (if listed below). After all, they are working in your behalf and you are paying part of their salary.

Remember most of these gentlemen will leave for Washington, D. C. shortly after Christmas. So either act now, or write letters. The numbers before each name are the California Congressional Districts each Representative is elected from.

United States Senators:

Clair Engle (D), 1010 Jackson St., Red Bluff
Thomas H. Kuchel (R), 315 S. Claudina, Anaheim (office: LA Federal Bldg.)

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8. George P. Miller (D), 1424 Benton St., Alameda
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12. B. F. Sisk (D), 3860 Balch Ave., Fresno 2
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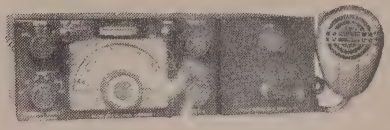

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"	700vct 100ma		6.3v 2.5a		5v 2a	5v 2a	1.98
"	580vct 100ma		6.3vct 2.5a		5v 3a	5v 3a	1.50
"	1100vct 250ma	125v 250ma	6.3v 8a			5 3½	4.50
"	900vct 250ma		6.3vct 5a			5 3½	3.98
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"	4850v 2ma		2.5v 3a		.5v .5a		1.50
"	950vct 225ma						1.98
"	400vct 140ma		12v 4.4a		2.5v 2.5a 10v 1.2a		1.98
"	25-35-40v 4a						1.75
"	6.3v 2a						1.50
"	6.3v 5.1a	6.3v 1.2a					1.98
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.08 1500v DC oil bathtub ..... ea .10
.01 5000v oil Aerovox type 12 ..... ea .65
.5 1000v Pyranol 23F159. & Aerovox JP 1016MCT ..... ea .25
.1-.1 4500v G,E, Pyranol No. 25F786 ..... ea ,25
1mfd 3000vdc Aerovox ..... ea .98
.007mfd 5000vdc type F3L ..... ea 1.25
5mfd 660vac, 1500vdc ..... ea .98
10mfd 1,000vdc oil ..... ea .98
1mfd 600vdc G.E. Pyranol w/brackets ..... ea .20

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Phone: RI 9-0553

VHF REPORT

Continued from page 16

all parties concerned please note.

One more station on in Nevada, which is rapidly becoming a not so rare state. K7-FEN is on from Fallon, having taken to the air on November 23.

Congratulations to Red, W6JKN, on making his WAS on six meters November 23, with a contact with W3ASD, Deleware. It's interesting to note that W3ASD has 47 states worked in 32 weeks on the band, and needs just New Mexico for his WAS. If he makes it pretty quick, your conductor will be very upset, being as how I hold the record for the shortest WAS on six meters —9 months and 13 days.

K6HEZ/7 in Idaho over the weekend of Nov. 22-23 helped no less than seven stations make WAS on the east coast, and pushed hundreds of others up the ladder another rung.

BEACON CHART:

During the past seven months, we have from time to time published the frequencies of good tip off stations, to DX openings into various areas. These beacon stations are usually between 49 and 50 megs, and a commercial harmonic. etc. of fairly high power. We continue . . .

48.82—AO Nova Scotia beacon. Excellent east coast tip off.

49.00—FM sub harmonic (doubler) from Habana, Cuba. Good tip off to Florida W4, CO2, KP4, etc.

49.550—AO carrier beaming 120 degrees, possibly in KP4 land.

49.69—Soeul, Korea FM station. Apparently hi power. Good JA6 tip off

49.86—Peaks 270 degrees from S. F. Seems to come from Johnston or Wake Island.

49.99—Yellowknife, NWT, AO beacon. Good KL7 tip off.

49.99—Philippines telephone repeater to mobile telephones. Good tip off to DU, VS2.

50.040—Alaskan Teletype, north of Anchorage. Good tip for KL7AUV.

50.120—More of the same, located though to be 800 miles north of Vancouver, B.C.

50.146—AO carrier beams on Okinawa. Seems to be keyed on occasion. When we find out where it is we will know what it tips us off to!

DX FREQUENCIES:

CT1CO—50.006-010 (Code wheel)
EI2W—50.016, 072. (Note: Do not VFO and call on his freq. — he won't come back!)
VU2CQ—50.030,080
SM6ANR—50.067 (CW)
CT3AE—50.075
JA1IGY—50.500, MCW.
VQ5GF—50.062,140
VS2DQ—50.008
PY3BW—50.124
HB9BG—50.320
SM6BTT—50.127
KH6UK—50.0005 (!)

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1N91 G. E. Diode, new	.35
40/40mfd 450v Sprague can new	.99
16 PDT Relay, 115vac 60cy coil, new	2.25
OAP-1 144-236mc, exclnt	9.95

Add postage — Excess refunded

ALL-TRONICS of SAN DIEGO
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K6KFY K6GAS K6VOB

Continued from page 19

pedance will be 52 when the director is lengthened slightly as already described. All the power is in the antenna. This 100 percent transfer of energy occurs while receiving too. Also the beam retains a high percentage of power transfer from feedline to beam over the whole band. The VSWR at 28,000 and 29.7 is 1.3 to 1. The reflected power remains on zero for a span of 400 kc in the middle of the band. No other beam can make that statement either. The 10-meter beam is the best constructed beam I have ever seen. Many are still in use all over the country and haven't been touched in years.

A couple of weeks ago one Sunday morning at 28,504 I made eight European contacts (long ones too) over a three-hour period. During these contacts I didn't have to repeat a thing and I got everyone I called. So it appears I dominated 28504 for three hours on a Sunday morning with a beam only 5.5 db gain. How could that be? As you know the rent gets pretty high down in the district of 28504 Kc.

Construction details on similar beams for various bands will appear in future issues.

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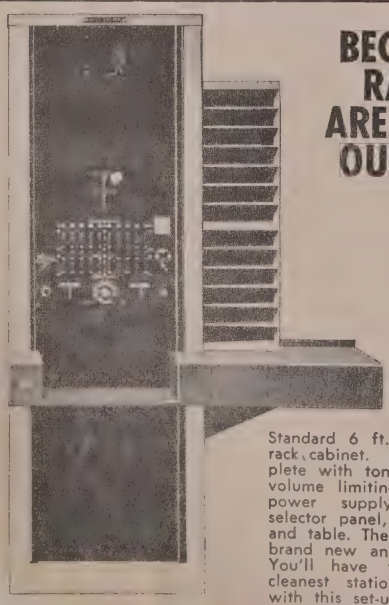

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BC-191

BC-191 Transmitter, 200kc to 12.5kc. Can be used for 10 and 20 meters with slight changes. Contains 3 meters, 100 watt modulation xfmr., variable inductor w/calibrated dial, tubes, etc. which are worth more than the low price of only $9.95

BC-603 & BC-683 RECEIVERS

BC-603 Receivers 20-28mc $6.95
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DM-34 12 volt Dynamotor for above 1.95
AC Plug-in Power Supply, **good for either** receiver. No internal changes needed 9.95

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QUACK, QUACK!

Continued from page 12

SSB might rightly be called a disease, once you have it, it will take more than a simple injection (carrier?) to bring you back to AM. And once convert the XYL to it's advantages and you're a chronic case.

The transmitting side of it, once you've grabbed the theory by the beak, is not difficult. Building a SSB rig is not difficult. IT is not more difficult to build than a receiver — it is easier. Take the duck by the neck, open the beak, take a good look inside and the comment will be: 'Is that all that makes it quack?'

One thing is certain, just as we got AM, aeroplanes, atom bombs, so will we get SSB. For a time perhaps there will be a lot of gunning for first place, and DSB will be there too, SSB will come to the fore. The reason? There are two reasons. One — absence of carrier. Two — half the space requirements out of crowded and even saturated bands.

I began by telling you how I began my interest in SSB; I end with a prophesy. I hope I've put the right eggs in the right basket, else I'll be in the position of having to ask for my modulators back.

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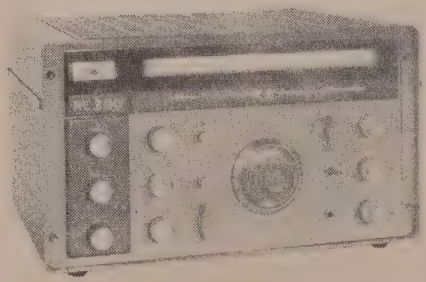

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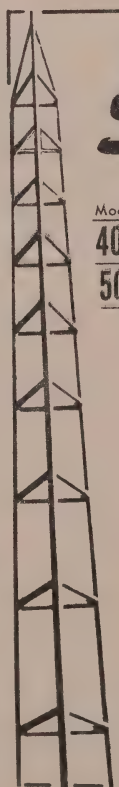

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Model		Reg	Special
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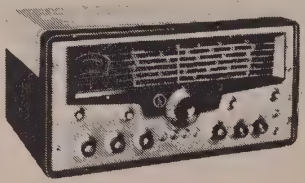

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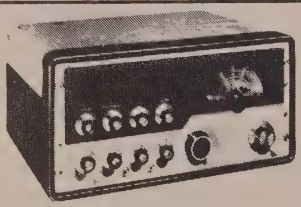

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Cleanest signal on the air! Hallicrafters new HT-32 transmitter brings a new standard of clarity with two exclusive features: (1) 5. 0 MC quartz crystal filter—cuts unwanted sideband 50 db. or more; (2) new bridged-tee modulator, temperature-stabilized and compensated network provides carrier suppression in excess of 50 db. SSB, AM or CW output on 80, 40, 20, 15, 11 & 10 meter bands. High-stability gear-driven V.F.O. 144 watts peak input. Ideal CW keying and break-in operation.

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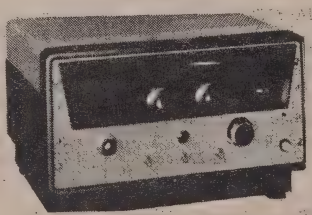

HALLICRAFTERS Model HT-33

New ceramic tubes! Ultra-compact new HT-33 kilowatt amplifier accents performance and dependability with costlier ceramic tubes — another Hallicrafters first. 100 watts greater plate dissipation. Greater overload safety. Unsurpassed ruggedness. Six amateur bands: 80, 40, 20, 15, 11 & 10 meters; simplified tuning; low drive requirement; quieter operation from low speed blower. All control leads filtered.

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Lorin Lee W6NOO
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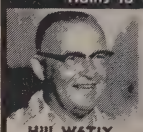
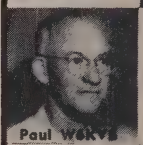
Western's Active On-the-Air Hams to Serve You



Hill W6TIX

Over Allowance On Your Old Gear

Easy Credit Plan—Up To 24 Months To Pay

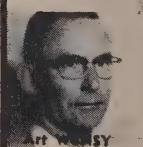


Paul W6KVE

Your Old Rig or Rcvr. Can Be Your Down Payment

We Invite You To Compare Anyone's Deal

Wayne W6GWY



Art W6ISY

We Need Your Old Gear for Novices, Technicians & Experimentors.

We Carry In Stock All the Name-Brand Amateur Lines

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SSB-DSB-AM CW-Mobile You Name It We've Got It

And We've Got One of The Largest Stocks of Component Parts Too.

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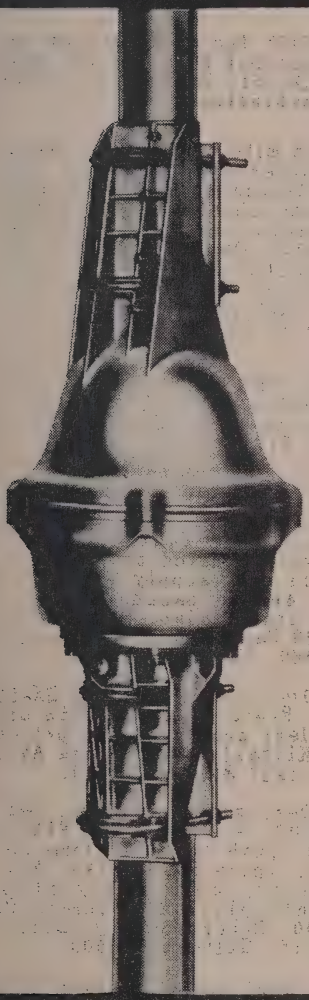
"HAM-M" BY CDR

America's most popular ham antenna rotor



Preferred because:

EXTRA HEAVY-DUTY

Holds heaviest commercial arrays — ice-proof, wind-proof, moisture-proof!

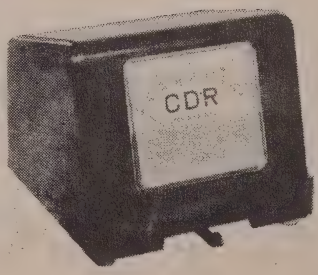
WON'T DRIFT

Provides 3500 in.-lb. resistance to lateral thrust.

EASIEST TO INSTALL

It's complete! Mounts on shaft or flat on plate in 30-minutes.

CONTROL CABINET: Pin-point calibrated in 5° units. Needle operates without activating rotor. Built for 8-wire cable.



ROTOR MECHANISM streamlined to resist moisture, "ice-lock." Actually stronger than your antenna itself. 98 ball bearings for smooth action. Positive brake ends drift.

YOU CAN'T AFFORD LESS! WHY PAY MORE? In only a few months the new CDR "Ham-M" Rotor has become the "pet" of hams from Coast to Coast. Costs less than rotors that won't give you any better performance, won't hold heavier antennae, won't give you any more resistance to the elements. It's the complete rotational system—no extras to buy. At your distributor's: only $119.50!

EXCLUSIVE OFFER: CDR "CALL-LETTERS" JEWELRY FREE! Handsome rhodium-finish tie-bar and key chain, both with your call-letters engraved FREE with your purchase of the "HAM-M". Both bear amateur radio emblem. Just *examine* the "HAM-M" and get both for only $3.60 (tax included) a $7.20 value for half price. See your CDR distributor for details.

CDR

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Cornell-Dubilier Electric Corp., South Plainfield, N. J.

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Amateur want ads 2¢ per word.
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HEATHKITS now in local stock!!! Exclusive at Kierulff!!!820 W. Olympic Los Angeles.

FOR HIGHEST QUALITY QSL's, call or write Duke, K6GJU, 10422 Townley, Whittier. OX 5-1274. Kromcote, Multicolor, special cuts our specialty.

USED HAM GEAR: "Cured and unsmoked". Syd's Electronic Exchange, Cupertino, Calif. Call CH 5-0400.

MUST SELL: HT 32 Hallicrafters SSB transmitter used 2 months. Excellent shape and working order. Will go at a low price. Stancor 203A mobile transmitter with VFO 10 meters. Uses 2E26 or 6146 final. Compact with lots of parts. FRontier 4-2533, evenings. W6WMB Stan Anstett, 344 31st. St. Hermosa Beach, Calif.

TUBES FOR SALE: 4X150A $13.50; 803 $1.95; sockets for 4X150A $7.50; 807 $1.25; 813 $8.50; 826 75¢ JSH Electronics, 1108 Venice Blvd., Los Angeles, Calif. RIchmond 9-7644.

FOR SALE: Elmac PMR-6A receiver, Gonset super six converter, Gonset 2 meter converter, QST's for 1936 & 1938. C.E. Kirk, 1833 So. Vega St., Alhambra, Calif. AT 9-1272.

FOR SALE: Gas engine generator, 28XDC 75 amps. $75. Inverter, 28vdc in 115vac 400 cy out 750 watts $10. Plate transformer 220v 1Ø in 60 cy 3800 vct out 1900 ma. $100. Filament transformer 110/220v 1Ø 60 cy pri. 5v 200 amps sec $25. Don Chilson, K6DBY, 10346 Corley Dr. Whittier, Calif. OX 6-4147.

Elmac PMR-6 working receiver. Excellent condition $54.50. Elmac 6 volt power supply $9.95. Paul Keys. RE 1-2206.

Morrow 5BR 10-80 converter $50. Butler 10 meter converter $10. Code practice oscillator tone and gain controls with speaker and phone input $10. 15 inch base reflex enclosure, Mahogany $35. Jerry, K6GAI, EDgewood 2-4901, Covina, Calif.

FOR SALE: Globe 680A, new, $100. W6EIM, 845 Chehalem Rd., La Canada, Calif. SYlvan 0-2707.

WANTED: HQ-129X before Xmas. Must be in good condition. Don AT 0-3528, 3280 N. Jackson, S. San Gabriel, Calif.

KWS-1 for sale. Contact W6IPE.

WANTED: Old radio and wireless sets and parts, 1928 or before. Crystal detectors, crystal sets, tubes, tuning units, parts, old battery receivers catalogues, magazines, books. All letters answered. Will pay cash or trade. Harold S. Greenwood, 2341 Ivyland Ave. Arcadia, Calif. DOuglas 7-7217.

HANDLING TRAFFIC? Two bucks brings you the Pacific Area Net News for one year. Vic Gish, W7FIX, 511 East 71st. Street Seattle 15, Washington.

FOR SALE: Shure mike CB-12-D $8. Thordarson transformer (type T 19 P54 1120 vct) $6. Electricians fast calculator $4. Weston tube checker (model 685-E) $20. Miller radio interference filter (No. 7820) $15. Ohmite SRC-100 $5. Electronic photosound course (code volume II) $8. Protelgram model 170B (miniaturized high voltage supply unit, N. Amer. Phillips Co.) $25. San Gabriel AT 7-7510.

HOUSE CLEANING, NEED MONEY: KW HV Trans from BC610 5800ct 470 mills. This is a military rating-2500. SX99 rcvr with crystal calib. $100. Heathkit vox, $20. Heathkits baluns $7. each. Two Teletype converters asking $75. for one $25. the other one. UTC 300 watt mod. trans. (new) $20. 72" relay rack $20. Also 48" rack with sliding drawer & panels $20. 6 meter rack mounted trans. 2000-6v-500v 200 mil vib. supply $15. VTVM, Eico $15. 3" 465 kc panadapter $50. I will accept trades also. K6KHS, R.F. Chambers, 13833 San Antonio Dr. Norwalk Calif. UN 4-3469, UN 8-2745.

FOR SALE: DX-100 transmitter and SX-99 receiver plus R-46B speaker. Both are in very excellent condition and priced to sell. Jim Kittell, 4749 Vineta Ave. La Canada, or call SYlvan 0-4917.

75A2 and speaker, good condition. Best offer over $300. Viking I and Viking VFO. De-TVIed, push to talk, time sequence keying, spare 829B, mike, key, low pass filter, coax relay $150. Heathkit Q multiplier $7. Thomas O. Crow, W6HQW 901 Robertson Way, Sacramento 18, Calif. GIlbert 8-6503.

Collins 32V2, good operating condition Will ship up to 500 miles free. W6BES, 5100 Aldea Ave., Encino, Calif. STate 4-5301. Evenings.

FOR SALE OR TRADE: 3 20m, 4 10m beam elements, PE-104-A vibrapack, Gonset tri-band, Nic-l-silver 6v battery, 49-50 Plymouth radio, 80 lb zinc dust for amateur rocketry. W6SOG. RY 1-5510. Evenings.

FOR SALE: 2 meter Gonset III, only 3 months old. $200, K6SWD. Call SYcamore 3-6897, DUnkirk 2-6203.

FOR SALE: Woodstock communications typewriter, good condition. $55. W6CMN, 6707 Beck Ave., North Hollywood, Calif.

Meet your QSL printer face to face at Hagerty Radio, 2926 W. Magnolia Blvd., Burbank, Calif. Bring your needs and beefs to W6CMN, 73, Bill.

WANTED: Good strong 60 ft. Spaulding or crank-up tower. Will pay cash or trade equipment. Have 250 watt match box and a few new transmitter tubes. E.J. Stidham, W6KDR, 904 N. Dickel, Anaheim, Calif. KE 3-1813.

FOR SALE: Instructograph, headset, key, 12 tapes, etc. Good condition. Call LAmbert 6-7588, Fullerton, Calif.

BUY OF YOUR LIFE: Collins 75A3-product detector-slow turn dial, absolutely perfect-cost $725, $375. SX96 mint condition, has SSB cost $250, $160. Brand new 6146's $4. each. Heathkit AC1, $5. Jap mike plus stand, $6. 6803 Amestoy Ave., Van Nuys, DI 4-1736.

Meissner Signal Shifter with 20,40 and 80 meter coils, works good, $25. Heath grid dip meter, new, $14. Ameco practice oscillator, $8. Ameco code course, complete 22 recordings, $7. Master mobile all band coil and 36 inch section, $7. Ship free except Meissner. W7IV, 845 Darrell, Costa Mesa, Calif. LIberty 8-1679.

FOR SALE: Hallicrafters HT32, like new, $525. F.O.B. Belmont, Calif. W6VAX, Myron C. Pogue, 889 Chevy St.

TOWERS: (structual steel) 26" triangle self supporting with good foundation or needs only one set guys. Steps to climb, galvanized, 50' and higher $2. per foot. (worth lots more). Write or see at, W6DYF "Jim" 1704 Keith Way, (near Sears) Sacramento 15, Calif. WAbash 2-6110.

FOR SALE: Factory wired Viking Ranger, $185. W.H. Taylor, W6QHQ, SY 6-1285. 3626 Fairmeade Rd. Pasadena, Calif.

WANTED: 2 meter or 6 meter converter. K6SBE, 934 W. Harvard Pl., Ontario.

FOR SALE: British Panda PR-120-V band-switching transmitter, $175. NC-2-40D receiver, $125. Laboratory test equipment. Federal type 804 UHF signal generator, 8-330mc, excellent condition, $125. Measurements Corp. model 75 signal generator, 50-400mc, motor driven dial, $75. General Radio type 616D heterodyne freq. meter, rack mount, $35. TS-28/UPN synchroscope, $35. Dumont type 164E oscilloscope, $25. Navy wire recorder type VRW-1 with spare wire cartridges, $50. I have a number of each of the following new surplus audio chokes: 5h, .2A, 75¢; 5.3h, .175A, 50¢; Stancor 5C51, 75¢; 200h, .01A, 50¢; 17h, .08A, 75¢. Many others. Wanted to buy or trade: Collins 75A1, 75A2, or 75A3 in good condition, reasonable price. Would consider trade on any gear listed above. Call Dave, W6FRS, 17139 Bullock St., Encino. STate 2-9318.

FOR SALE: Brand new Gonset 6 meter 3136 and linear 212. List price $439. plus tax. Cash $325. Phone TOpaz 9-1984. Downey, Calif. W6RVG.

Gonset Comm IIB for 6 meters with 4 crystals and mike, FB condition $150. Stan Harris, K6ZXZ, 526 N. 4th. St. Montebello, Calif. OX 5-4716 after 5.

FOR SALE: 51SB B&W SSB generator $50. Knight VFI unopened brand new $25. 12v lightweight beam rotator $2.50. Box 6" feedline spreaders, make offer; several variable cond for high power (500w to 1kw) 60% off list; 2 el 20 mtr beam $15. W6GMC, EL 8-0831.

COAXIAL CABLE: New surplus, RG-54A-U, 58 ohms impedance, 30 ft. prepaid $1. W5YNL, 3113 No. Columbia, Plainview, Texas.

FOR SALE: DX-100 equipped with differential keyer, antenna relay, 1200 uufd variable load condenser, VFO turns off when using xtal. An exceptional buy at $185. W6GMC, EL 8-0831.

FOR SALE: Globe Champion 300A, $300. A complete Morrow MB560. MBR5 receiver with power supplies, fixed and mobile. Microphone, antennas, everything $400. M.C. Mandella, K6RIH, 9633 Abbotsford Rd. Rivera, Calif. OXford 5-6700.

DIAGRAMS for Surplus Electronics. Stamp for list. Alvaradio P.O. Box 151, North Hollywood, Calif.

QSLs send 25¢ (refundable) for samples. Wildcat Press, 6707 Beck Ave., North Hollywood, Calif.

FOR SALE: Johnson Viking II with VFO, lo-pass filter, coax relay, push-to-talk and complete set spare tubes $195. 2500 volt, 200 mil. power supply, $20. PE103 dynamotor $15. 20 meter, 3 element beam, 15 meter, 3 element beam, and 10 meter 3 element beam. All aluminum, no matching sections. All 3 for $30. Kenneth C. Heintz, ex W6HCN, 17401 Roscoe Blvd., Northridge, Calif. Phone DIckens 3-4792.

SELL OR SWAP: Bandswitching table-top linear, 80-10 meters, 4X150-A grounded grid plus 4-866's. Built-in power supply has H.V. time delay relay and standby. Coax input, pi-net output. Separate plate volt and mil meters. commercial quality throughout, no surplus parts. Blue crackle cabinet and panel. Can be rack mounted $150. Far less than parts cost. Also have Heath grid dipper $21. VTVM $26. Multimeter $19. VM Fidelis phono $75. $300. worth of records $75. Johnson 2 meter VFO plus power supply $35. Many other misc. parts: tubes, transistors, transformers, chassis, goodies all types. So come over or call and take your pick. Want machine tools such as lathe, drill press, mill, and misc. machinists tools, calipers, mikes, v-blocks, etc. Jay, 955 N. Marengo Ave., Pasadena, Calif. SYcamore 7-9372.

FOR SALE OR TRADE: Marmax mobile xmtr all band 10-80 meters, complete with dynamotor cables and mike: Want tri-band beam, rotator or what have you? Swap: Elmac "S" meter for Hammarlund HQ129X "S" meter. A. Dahlman, W6UEI, STate 0-0675. 14940 Hartland St., Van Nuys, Calif.

FOR SALE OR TRADE: 6 meter mobile xmtr & xtal controlled converter, clean $35. Electro Voice mike #605 $15. American mike #D-8 $15. Tubes 304TL, $10. each. 6146 $3.50 each. 100th $5. 6L6 50¢ each. Tube sockets & small parts to many to list what do you need? Bob, K6RAG, 1349 Weber, Pomona, Calif. NA 2-5410.

FOR SALE: Double bay 6' steel rack enclosed in copper sheet lined, wood finished cabinet with key lock double doors front and back. Heavy twin wheel ball bearing casters for moving. Snap-up 40" x 12" operating desk on front. 10" exhaust fan with 2 glass wool air intake filters. Rack contains 2 separate extra heavy duty HV supplies: (1) 0-3500 VDC @ 1 amp CCS with powerstat and (2) 1500-3750 VDC @ .6 amp with tapped xfmr. Supplies use 872A's on Amatran fil. xfmrs and have total of 23 MFD of 4000 or 5600 V oil condensers and forced air cooled bleeders. Also agastat time delay, ½ pwr relays, interlocks and cabled wiring. Circuits fully relay controlled from switch panel. Also has 24-28 VDC @ 20 amp supply for relays and external use with beam rotator. Matched grey components. 79" of panel space available for your building. $225. Howard Shepherd, W6QJW, 127 S. Citrus, L.A.

WANT TO BUY, CASH DEAL ONLY: I will pay up to $85. for a Super Pro covering 1.25mc to 40mc, but only if very clean and with matching power supply. Would consider $65. for BC779 Super Pro (200kc 20 megs. not continuous) if very clean, W. P/S. I will pay freight or P/U, but you must pack for shipping. I also need panadaptor suitable for use with above Super Pro's and have the following as swapping material: QST collection, 1932-1945, fairly complete, 2-50 ft. lengths RG17/U coax, with connectors, 3 element Telrex 10 meter short beam. I also need a Tapetone 6 meter converter, 14-18 meg IF, Filter King six meter converter, 10-14 meg IF, 6 element Telrex W/S 6 meter array. Pay off your xmas bills. Sell your un-used equipment as listed above. VHF man, 1113 Halfmoon Dr. Modesto, Calif.

MECHANICAL FILTER FOR SALE: 455 kcs. Can be used for SSB or receiver. Half price. 250 watt (audio) modulation transformer $12.50. 813 tube, socket, modulation and driver transformers $15. OAW, 424 20th. St. N.E., Cedar Rapids, Iowa.

FOR SALE: 1954 2 dr Del Rey Chev. Excellent cond. with complete all band rig installed. Extra tubes, charger, spotlite, $750. $695. without rig. W6LTB, GI 4-1089.

SELL OR TRADE: Speed bug, new, $8.50. Triplett A1-166 voltohmeter excellent $12.50. Miller BFO #512 450/475kc wired $275. Hayden mercury vapor power supply plate switch 2 rpm, 110v motor turn on filament & plate automatically comes on $3. Want CDRAR22 rotator. K6JRE, 1007 W. 66th. St. L.A. PH 8-6009.

55 foot crank up tower $75. Alhambra. AT 4-4822.

Do you have an old KW AM rig loaded with TVI? I am looking for a power supply 2500 volt at 300 to 500 ma. Call or contact H.A. Mask, W6VRC, 2500 S. 4th. Ave. Arcadia, Calif. HI 7-0306.

Two transformers, 2600 volts @ 500 MADC, $25.ea. One UTC choke, 500 MA. $8. One UTC filter choke, 500 MA. $8. One Hadley swinging choke, $5. One modulation transformer, Thordarson 500 watt, $40. One Transtat, variable auto-transformer, 115-130 volt 22.5 amperes, $25. BC 221, AC power supply, $55. 2405 Winthrop Dr., Alhambra. CU 3-5598.

FOR SALE: Minifone pocket wire recorder P-55S, $199. Cost almost $400. new. with the following accessories: leather carrying case, AC power supply, several batteries, power cord for use in automobile, patch cord for play back thru other units, foot switch, extra take up spools, supply spool with 50 minutes of wire. F. Wirrer, 754 24th. St., Santa Monica. EXmont 8-6211 ext. 281 days. EXbrook 4-0901 evenings.

FOR SALE: S-38-C in good condition $25. BC312-N, 1.5-18mc. very FB receiver. Must sell $25. Don, K6DFF, ATlantic 0-3528. 3230 N. Jackson, So. San Gabriel, Calif.

FOR SALE OR TRADE: 1 RCA transmitter table top model MI-7821 frequency range 30 to 41 meg. Amptitude modulation now tuned in 10 meter band. Complete with speech amplifier and modulator 50 watts output $85. Also 1BC221M frequency meter 125 to 20,000kc. Need 2 or 6 meter transmitter receiver. E. M. Hensley, K6HRE, 1181 McClellan Dr. L.A. 49, Calif. GRanite 3-4465.

CLEANING SHACK: I pay shipping. Conelrad monitor, 110 vac. visual/aural indication, AVC-operated $5.; TBY Transceiver, 6-10 meter, conversion in September, 1957, 'CQ'; $10; Knight SWR bridge $3.50; 1¼ meter oscillator $3.50 15 meter preselector $3. 2 meter converter, schematic page 375, 1953 ARRL Handbook, not working $7.50. W5KKB, 443 Centenary, Baton Rouge.

TECH MANUALS WANTED: GP-7, TA-12, APR-5, RDO, RBS, ARB, ARN-5, ARN-7, ARR-5, BC-728, RAX, ARC-4, ARC-1, ARC-3, APN-1, APS-13, Mark II, ATD. Cash paid. P.O. Box 37, Temple City, Calif.

FOR SALE: Instructograph, head set, key, 12 tapes, etc. Good condition. Call LAmbert 6-7588, Fullerton.

FOR SALE: Hammarlund HQ160, used 1 month, reasonable. LOrraine 6-0049.

FOR SALE: Complete station, Johnson Ranger SX100, 15 meter beam, 40 ft. mast, phone patch, rotor and all accessories. All less than 1 year old $450. CRestview 6-5903, AXminster 8-7355. 8665 W. 3rd. St. L.A. 48, Calif.

FOR SALE: 20A Exciter with BC 458 VFO & 813's GG final with 1 KW power supply $350; BC 348 receiver $50; NC 200 receiver $100; Simpson scope $50. K6VIS, 3631 Valencia, Fullerton. LA 6-1169.

522 transmitter and receiver converted and running, with tubes and mike ready to go $39.50. Command transmitters VFO on all bands. Large desk and leather chair $35. Other misc gear. 307 Fairview Blvd., Inglewood, Calif. ORegon 8-9771.

GO-CART 400 race car, fun for young and old. 1 new tire and 2 new tubes, cost $164.50 factory assembled and painted 4 months ago. Will trade for clean receiver around $125. value. 2 motorola police receivers $5. each. Gonset 10 meter converter $10. OWen 7-6092 evenings and weekends.

SELLING COMPLETE STATION: Transmitter; Heathkit Apache used 30 days, first rate construction. Kit price. Receiver Hallicrafters SX-71, late model including 21mc band. Very clean $150. Antenna, Antenna Engineering Corp. V-37 80 thru 10 meters, Electro magnetic de coupling ground plane, cost new and complete $400., $150. D-104 mike with push to talk stand $15. Many misc. parts. Dick Mitchell, W6IIP, 6828 Mantova St., Long Beach 15, Calif. GEneva 1-4001.

SWAP: 10A, clean, needs alignment, but very excellent shape for 3.1 and 1.5kc Collins mechanical filters. BC-453 for KW lo-pass, K & E, Leroy, N3245-6, complete, perfect condition for EE-3 key, PL-175's, 4-1000, VHF equipment, or W2EWL rig. Offers considered. W4IFN, 28 Whitthorne Dr., Milan, Tennessee.

FOR SALE: Almost new Johnson 500 with power supply $775. Collins 75A4 $425. High Patch $22. Clipper $25. 2 meter Gonset Communicator II $150. Elmac transmitter, 2 mikes, key. Regency transistor radio & converter never used both $100. Other items. Wilma Katz; AXminster 2-7755, evenings.

FOR SALE: 40' wooden tower solidly constructed, will support any size beam. $30. 10305 E. Deveron, Whittier, OXbow, 5-9081. K6IMF.

SELL: HQ129X new tubes, $140. RDO T.U. 38-95mc new, $20. Box 9841SU Tucson.

TRADE: Hammond Solovox organ, not new but complete and good. Want commercial all band mobile transmitter. W5YNL, 3113 No. Columbia, Plainview, Texas.

Moved to new QTH so cleaning shack, most is new equip. Electro voice mike #927 $10. Heath 7½ watt amp. with 10" GE spkr & 45 rpm record player $25. plate xmfr 110 pri.sec 3000-2500-2000 vct 300ma $12.50. Power xmfr 110 pri. sec 5 vct 60 amps $20. Bud cabinet 22x 15x10½ with chassis & front panel $20. 10 hy 525ma $12. 8 hy 300ma $5. 5-8 hy swinging 400ma $6. 4 hy 300 ma $2.50. .33 hy 600ma $1.50. Amprobe Jr. AC volt-amp tester $15. 2-4 ufd 2500 vdc $3.50.each 2.2 mfd 4000 vdc $4. Misc. small mod xmfrs- 50 used TV xmfr all kinds of voltage $35. or $1.50 each. 30 used output xmfr 50¢ each all $7.50. All types of old rcvr tubes 25¢ each. Will make good price on all listed if sold as lot. Bob, K6RAG, 1349 Weber, Pomona, Calif. NA 2-5410.

WHAT AM I OFFERED for 105 copies of Radio News, 52 copies of Radio Electronics, 58 copies of Service, 16 copies of Electronic Tech.? Want a good sweep and marker generator. A good rcvr, have SX28. J.T. Kelly, 778 W. 7th. St. San Pedro, Calif. TE 2-8572.

QSL's--Outstanding--original--fast service--reasonable prices. Samples 10¢. Super quality 25¢. Refundable. VYS QSLs, 1704-WR Hale, Ft. Wayne, Indiana.

WANTED: The surplus 1KW RCA modulation transformer, Russ Smith, W6ONK, 605 W. Andrews St., Fresno 5, Calif.

FOR SALE: Viking Navigator, 40 watt input cw xmitter 6146 final, time sequence keying, built in VFO, two xtal positions. Ideal for novice, will drive tetrode KW final. Bought new in March 1958. Want $150. Reason for selling, my KW final is a triode. Standard co-ax connector output, phono jack was original. OA2 voltage regulator on VFO, VR150 screen of final. Call HIlltop 0-1132, 7pm to midnite Wednesday thru Sunday. V.L. Clark. W6ZW.

WANT TO TRADE: Globe Chief 90 with 60 watt modulator for SSB 10A or a 40 or 80 meter SSB exciter. Make me a deal. K6GKU, AT 6-4886.

FOR SALE: 10 meter Workshop Beam, 3 el 50 ohm direct feed. 1-15 meter Hy-Gain 3 el beam with gamma match 50 ohm feed. 1-20 meter Hy-Gain 3 el beam with gamma match 50 ohm feed. Will include prop pitch rotor with indicator (world globe) and three 3 element beams complete for only $100. Try and beat this one. Russ Smith, W6ONK, 605 W. Andrews Ave. Fresno 5, Calif. BAldwin 7-4941.

FOR SALE: 100 watt T.B.W. xmtr on 20, 40, 80. 40 watt RCA commercial mobile xmtr, 100 watt Arc 5 xmtr on 80. New Viking match box, K.W. power supply, D.C. power supply, Philco push button car radio. Sell or trade for Multiband vertical antenna, binoculars, hi fi equipment, tape recorder, television, photographic equipment or Micro match S.W.R. meter. AX 2-8822, 3655 Homeway Dr., Los Angeles 8, Calif.

ATTENTION: Mobileers! Leece Neville 6 volt 100 amp system alternator, regulator & rectifier, $45. Also Leece Neville 12 volt 100 amp. system. Alternator regulator & rectifier, $85. Good condition. H.A. Zimmerman Jr., K2PAT, 115 Willow Street, Brooklyn, N.Y. ULster 2-3472.

FOR SALE: All or part complete station like new condition. SX-100, Mark-2 with R47 speaker $225. Globe Chief $50. WRL VFO 160m thru 10m $40. WRL UMI-45 watt plate mod. $35. Evenings, weekends Joe, W6ZAM, OXford 2-600.

FOR SALE: Magazine subscriptions, QST-$4.00; CQ-$5.00; Western Radio Amateur $2.00. Or any magazine you can think of Playboy, Esquire, Life, Sat. Evening Post, Time. Write for prices or phone-Gene Silvey, W6COZ at NA 2-0542. 636 N. Gordon St. Pomona, Calif.

WANTED: 10 volt, 15 amp. low capacity, 110-120 volt, 60 cycle filament transformer; TV field strength meter. Also diagram and information on a grounded grid linear amplifier, using 803's, pi-network, 1500 volts, to be driven by a Viking 2. Frank W. Jones, Gabbs, Nev.

FOR SALE: Hallicrafters S-76 receiver with speaker. $75. Heathkit AT-1 with external power supply $15. Home made hi fi amplifier built after Heathkit WA-P2, pre amplifier and 20 watt W-4AM power amplifier using 5881's for output for speed record player changer with magnetic pick up and speaker, cabinet with 2-12in. woofers and 1 tweeter. 24 in. by 32½ in. by 22½ in. and AM tuner $175. Dan Lorenz; 120 West Haven, Arcadia, Calif. HIllcrest 7-4908.

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FOR SALE: SSB exciter Central Electronics 10B, VFO, tuning eye QT-1, coils $125. This is a good buy. Items listed generally come extra. W6BLZ, 528 Colima St., La Jolla, Calif.

FOR SALE: Complete 6 meter station. 200 watts includes 2 power supplies, 1 final, 1 modulator, 2 crystal converters, 1 5 element Hy-Gain beam, 12 crystals, 1 mobile halo, 1 Leece Neville 100 amp 6 volt alternator, 1 dynamotor 600v 375ma. Rig can be used mobile or fixed. Wired for push to talk, $165. or trade for Gonset Comm. Also have other items. K6DCY, 4415 Heathdale, Covina, Calif.

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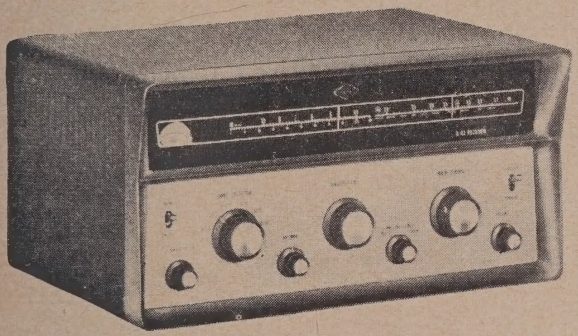
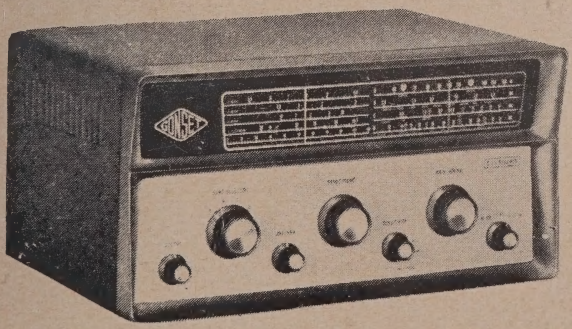
G43



G-43 offers peak reception over a wide frequency range . . . sensitivity . . . selectivity . . . highest quality components and materials . . . a fine blend of high performance features and economical pricing.

G33



G-33 has the same basic features as G-43, but incorporates certain design simplification which permits exceptionally reasonable pricing with little sacrifice in performance.

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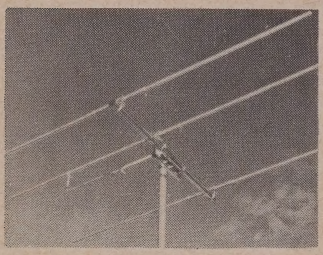
10 METERS 3 ELEMENTS

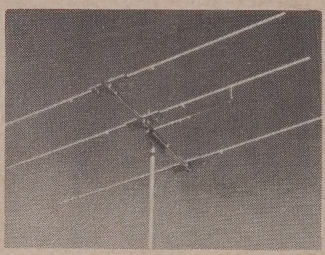


Weighing only 18 lbs., this Antenna is small enough to be rotated by any TV rotator. Elements are adjustable for maximum gain over the entire 10 meter band. Easy to assemble in short order, with no further adjustments necessary. Boom is 8 ft. in length: longest element, 17' 10".

Amateur Net: $24.95

Model No. 103G

15 METERS 3 ELEMENTS

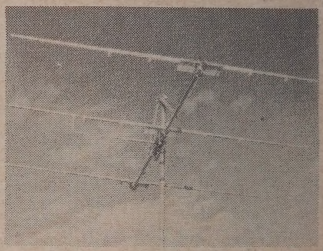


Still small enough to be rotated with the heavy duty TV rotators, this ruggedly built antenna is adjustable over entire 15 meter band. Extremely simple to put up and into operation. Rugged Boom/Mast clamp also used to support the elements. Wt: 30 lbs. Boom length 12 ft.: longest element, 23' 10".

Amateur Net: $34.95

Model No. 153G

20 METERS 3 ELEMENTS



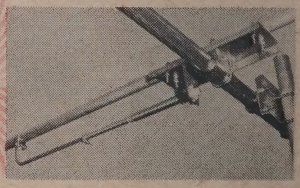
This heavy duty, full-sized twenty meter array is really built to take it. The elements are adjustable over the entire 20 meter band, and they are telescoped three times to minimize element sag. Approximate net weight is 48 lbs. Boom length of 18 ft.; longest element measures 35' 9".

Amateur Net: $59.95

Model No. 203G

Carefully engineered, incorporating the latest design principles for top performance, the hy-gain monobanders are factory pre-tuned and pre-matched. Complete with easy-to-follow instructions for assembly, these beams sold with 1 year guarantee. Features include large diameter elements and ruggedly built Boom/Mast clamps. Booms hot dipped galvanized steel for max. strength with minimum wind resistance. Elements 6061 T6 alloy.

Now a feature of all three monobanders, the new, pre-calibrated (GAMMAXIAL) Gamma Match assembly with coaxially formed reactance cancelling capacitor built-in, makes possible for the first time a perfect 1:1 SWR. Coax connector for 52 ohm feed included. Developed by hy-gain's engineering staff and used exclusively in the hy-gain monobanders.



Average Gain: 8½ db. Average F/B Ratio: 24 db.

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